USER GUIDE

H.264 Digital Video Recorder

Release Version : 1.0

CE FC **RoHS**

SAFETY PRECAUTIONS

EXPLANATION OF SYMBOLS

This symbol is intended to alert the user to the presence of important operation and maintenance (servicing) instructions in the literature accompanying the appliance.

This symbol is intended to alert the user to the presence of unprotected “dangerous voltage” within the product’s enclosure that may be strong enough to cause a risk of electric shock persons.

CAUTION

THIS PRODUCT HAS MULTIPLE-RATED VOLTAGES (110V AND 220V).

SEE INSTALLATION INSTRUCTIONS BEFORE CONNECTING TO THE POWER SUPPLY

THIS PRODUCT USES A LITHIUM BATTERY.

RISK OF EXPLOSION IF THE BATTERY ON THE MAIN BOARD IS REPLACED BY AN INCORRECT TYPE. DISPOSE OF USED BATTERIES ACCORDING TO INSTRUCTIONS.

See INSTALLION INSTRUCTION BEFORE CONNECTING TO THE SUPPLY.

THIS EQUIPMENT AND ALL COMMUNICATION WIRINGS ARE INTENDED FOR INDOOR USE.

TO REDUCE THE RISK OF FIRE ELECTRIC SHOCK, DO NOT EXPOSE THE UNIT TO RAIN OR MOISTURE.

WARNING

The product should be installed by a trained professional. The DVR should be powered off when connecting camera, audio, or sensor cables.

The manufacturer is not responsible for any damages caused by improper use of the product or failure to follow instructions for the product.

The manufacturer is not responsible for any problems caused by or resulting from the user physically opening the DVR for examination or attempting to fix the unit. The manufacturer may not be held liable for any issues with the unit if the warranty seal is removed.

INDEX

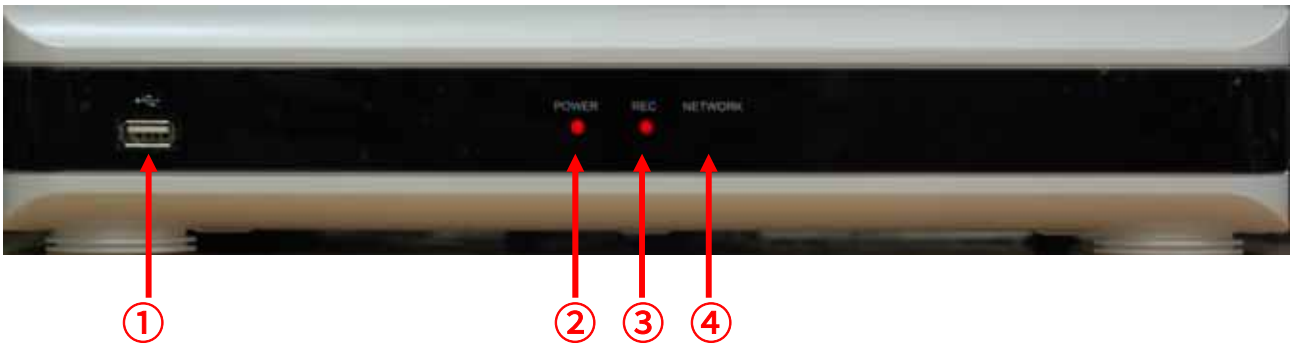
Chapter 1. System Information

1.1. Packing contents

DVR SET	
Entry Model	Standard Model
	
REMOTE CONTROLLER	CLIENT SOFTWARE CD
	
MANUAL	SATA HDD CABLE
	
SCREWS	BATTERY
	
Power Adapter	POWER CABLE
	

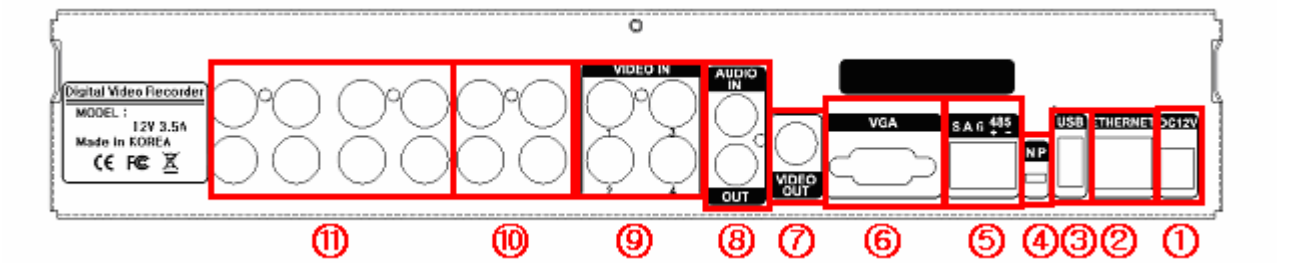
1.2. ENTRY MODEL

1.2.1 FRONT Description



1. USB Port	USB device can be connected. To Back-up the Data and To Use USB Mouse.
2. POWER	The POWER LIGHT turns on RED when the power is supplied to the DVR SYSTEM.
3. REC	The LIGHT is blinking when the DVR SYSTEM records data.
4. NETWORK	The LED LIGHT turns on when the NETWORK FUNCTION is operated through the connection of the Network Client.

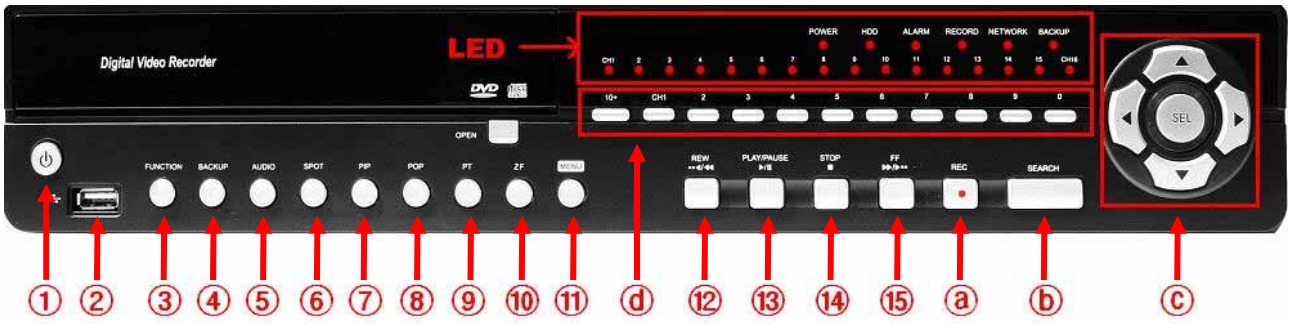
1.2.2 REAR Description



1. DC 12V POWER	Connect to Power Adaptor which was included in Box
2. ETHERNET	10/100 Network CABLE (RJ-45) Port
3. USB PORT	USB Device can be connected
4. NTSC/PAL SWITCH	NTSC or PAL select switch
5. 485 PORT	RS-485 port has +, – terminals
GROUND	G for Ground used for earth
ALARM	A for Alarm, which signal occurs
SIGNAL	S for Signal
6. VGA PORT	Connected with LCD Monitor (15 pin D-Sub Jack)
7. VIDEO OUT	Connected with CRT Monitor (BNC)
8. AUDIO IN/OUT	One channel Audio IN/OUT (RCA)
9. 10. 11. VIDEO IN	VIDEO INPUT PORTS for 4 Channels, for 8 Channels, for 16 Channels

1.3. STANDARD MODEL

1.3.1 FRONT



1.3.1.1 LED Description

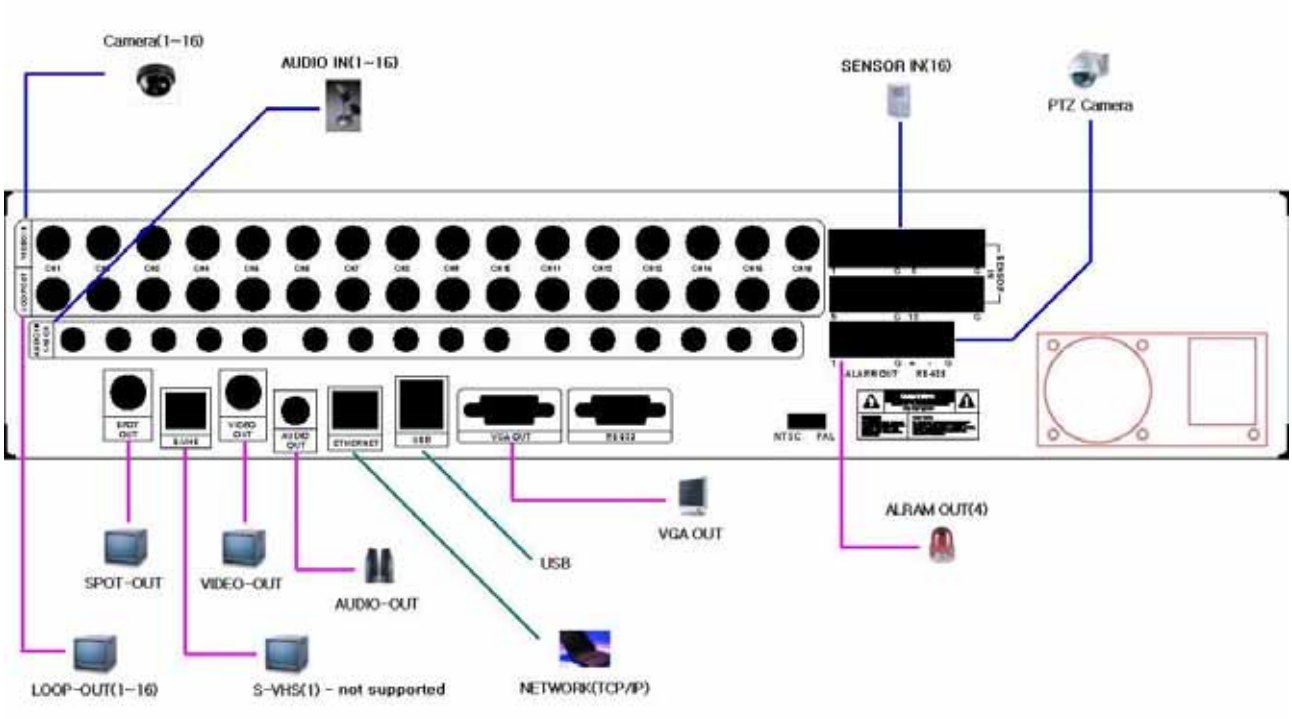
POWER	The POWER LIGHT turns on RED when the power is supplied to the DVR SYSTEM. The LIGHT changes to GREEN and the SYSTEM BOOTING is started, when the POWER BUTTON of the FRONT PANEL and Remote Controller is pushed.
HDD	The LED LIGHT is blinking when the video or audio data is stored in the DVR System.
ALARM	The LIGHT turns on RED when the ALARM OUTPUT of the DVR SYSTEM operates.
RECORD	The LIGHT is blinking when the DVR SYSTEM records data.
NETWORK	The LED LIGHT turns on when the NETWORK FUNCTION is operated through the connection of the Network Client.
BACKUP	The LIGHT turns on RED during the BACKUP process of the stored data.
CH LED	Each Channel's LED turns on when DVR recording starts.

*** USB Port use USB memory stick, CD-RW, DVD-RW as firmware update and backup.**

1.3.1.2 KEY Description

1. POWER SWITCH (STANBY POWER)	The POWER SWITCH should be selected to operate the DVR SYSTEM, even though the POWER is supplied to the DVR SYSTEM.
2. USB	There is a USB PORT in the FRONT of the DVR SYSTEM for the convenience of user, even though another USB PORT is located in the rear of the DVR SYSTEM. This USB PORT is for the External BACKUP Device.
3. FUNCTION	The buttons of some features are located on the FRONT PANEL and users can use them directly. It operates the features of PTZ, SEQUENCE, AUDIO, BACKUP, and LOG VIEW. It can't be operated by the remote controller.
4. BACKUP	It backs up the stored image in the DVR SYSTEM.
5. AUDIO	It turns ON each AUDIO OUTPUT or makes it MUTE.
6. SPOT	It is for the SPOT function. It rotates the image between FULL MODE and QUAD MODES. The image is displayed on the monitor through the SPOT PORT.
7. PIP (Picture In Picture)	It displays a small pop-up screen on the full screen. With the PIP button, the small pop-up and full screens are converted.
8. POP	It displays the divided screens of 8 channels.
9. PT	It operates the PAN/TILT CONTROL of the PTZ CAMERA that is installed on the DVR SYSTEM.
10. ZF	It operates the digital zoom of the live and playback screen in DVR System.
11. MENU	It displays the categories of SETUP and MENU of the DVR SYSTEM.
12. REW/STEP REW	It rewinds and replays the stored image up to 128 times faster. It supports the STEP Rewind feature on the pause.
13. PLAY/PAUSE	It plays/pauses the image during search.
14. STOP	It stops the searching process of the stored image.
15. FAST FORWARD	It is for the FAST Forward feature during the search of the stored image. It offers the search up to 128 times faster.
a. REC	It RECORDS the input image of the DVR SYSTEM or STOPS the recording process.
b. SEARCH	It searches the stored image.
c. SCROLL BUTTON	It moves (Up/Down/Left/Right)the cursor in the menu categories & PTZ screen. It displays full screen of camera(1ch/2ch/3ch/4ch) & division screens(4 division/ 8 division/ 9 division/16 division).
d. CH BUTTON	It show Full Screen Mode which you select a special channel. In case of 11~16CH selection, press 10+ button and then press 1~6 numbering button.

1.3.2 REAR Description



1. CAMERA	VIDEO INPUT PORTS for 16 Channels.
2. LOOP OUT	Each Video Loop Out-put
3. SPOT OUT	Video Out-put by Full Screen mode or Quad split mode
4. VIDEO OUT	Connected with CRT Monitor (BNC)
5. VGA	Connected with LCD Monitor (15 Pin D-Sub Jack)
6. AUDIO IN	16 channel Audio IN (RCA)
7. AUDIO OUT	1 channel Audio OUT (RCA)
8. SENSOR IN	16 channel Sensor IN.
8. ALARM OUT	4 channel Alarm OUT.
10. RS-485 (PTZ)	RS-485 port has +, – terminals.
11. NETWORK	10/100 Network CABLE (RJ-45) Port.
12. USB	USB Device - To Back-up the Data and To Use USB Mouse
13. NTSC/PAL SWITCH	NTSC or PAL select switch

1.4. Remote Controller

1) **REC** : Record button
2) **DVR-ID**
3) **Number button**
4) **AUDIO** : Audio ON / Mute
5) **BACKUP** :

   Back up recorded data to other device
6) **MENU** :

   Go to 'MENU' mode to setup values
7) **OSD** : Show or Hide OSD
8) **PTZ** : Control Pan/Tilt/Zoom camera.
9) **Digital Zoom**
10) **Direction** (▲,▼,◀,▶)

    Move cursor or control PTZF camera

    ENTER

    Select sub item in system setup mode
11) **SEARCH** : Search recorded video
12) **LOG** : Show running status of DVR system
13) ◀◀ : Reverse play
14) ▶I : Play or Pause during playback
15) ▶▶ : Fast forward play
16) ■ : Stop playback and go to Live mode
17) **SPOT** : Not Operated in this model
18) **PIP** : Go to PIP mode
19) **POP** : Enlarge specific channel in Live mode
20) **SEQ** : Show each camera rotation
21) **Full screen mode**
22) **Quad screen mode**

1.5. Specification – Entry model

MODEL		4 CH	8 CH	16 CH
Compression Algorithm		Video : H.264 / Audio : G723		
HDD Bay		SATA HDD ×1		
Operating System		Embedded Linux		
Video Input		4 CH	8 CH	16 CH
Video Output	CVBS	1 CH, BNC		
	Loop out	X	X	X
	VGA	VGA ×1 (resolution : 800×600, 1024×768, 1280×1024 Selectable)		
Live Display Modes		1, 4 & PIP	1, 4, 9 & PIP, POP	1, 4, 9, 16 & PIP, POP
Rec. Speed	CIF	120/100 fps	240/200 fps	480/400 fps
	Half-D1	120/100 fps	240/200 fps	240/200 fps
	D1	120/100 fps	120/100 fps	120/100 fps
Recording Modes		Continuous, Schedule, Sensor-Activated & Motion Detection Recording Pre & Post Alarm Recording, Emergency Recording		
Playback & Backup	Speed	×1, ×4, ×8, ×16, ×32		
	Search	Search by Time Bar, Calendar, Event and First/Last Search		
	Device	USB Memory Stick		
Audio Input/Output		1 In / 1 Out		
Sensor in/Alarm out		1 In / 1 Out		
Port		USB ×2, RS-485(PTZ) ×1		
LAN		10/100 Base-TX Ethernet(RJ-45) – Static / DHCP / DDNS		
Network	Transmission	Video Dual-Stream (Local recording & Network Transmission)		
	Client	Live Monitoring, Playback & Backup, PTZ Control & setting, Snapshot		
	Web-view	Live Monitoring, Playback, PTZ Control		
Other Functions		Multi-Language, Firmware Upgrade by USB & Network Configuration Import & Export, Water-Mark, Alarm out for Events & Video loss E-mail Notification/Alarm/Buzzer for Events, Warning for System Over-Temp External keyboard control		
Power		DC 12V, 3.3A		
Storage Temp/Humidity		-20 ~ 60°C / 20 ~ 95% RH		
Operating Temp/Humidity		5 ~ 40°C / 20 ~ 80% RH		
Dimension (W×D×H)		341×258×60, Packing : 374×383×126 (mm)		
Certification		CE, FCC, RoHS		

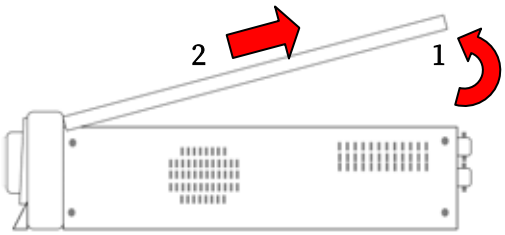
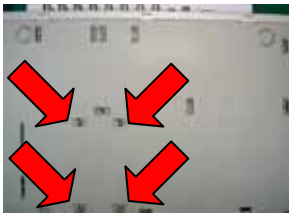
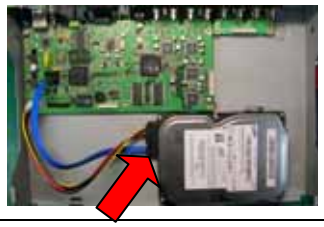
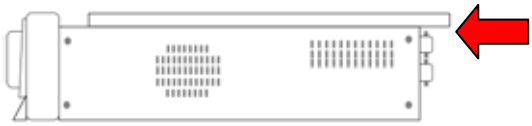
1.6. Specification – Standard model

MODEL		8 CH	16 CH
Compression Algorithm		Video : H.264 / Audio : G723	
HDD Bay		SATA HDD × 4 or SATA HDD × 2 & ODD × 1	
Operating System		Embedded Linux	
Video Input		8 CH	16 CH
Video Output	CVBS	1 CH, BNC	
	Loop out	8 CH	16 CH
	Spot	1 CH (Full mode or Quad mode)	
	VGA	VGA ×1 (resolution : 800×600, 1024×768, 1280×1024 Selectable)	
Live Display Modes		1, 4, 9 & PIP, POP	1, 4, 9, 16 & PIP, POP
Rec. Speed	CIF	240/200 fps	480/400 fps
	Half-D1	240/200 fps	480/400 fps
	D1	240/200 fps	240/200 fps
Recording Modes		Continuous, Schedule, Sensor-Activated & Motion Detection Recording Pre & Post Alarm Recording, Emergency Recording	
Playback & Backup	Speed	×1, ×4, ×8, ×16, ×32	
	Search	Search by Time Bar, Calendar, Event and First/Last Search	
	Device	USB Memory Stick/HDD, DVD-RW & Network by CMS	
Audio Input/Output		8 In / 1 Out	16 In / 1 Out
Sensor in/Alarm out		8 In / 4 Out	16 In / 4 Out
Port		USB ×2, RS-485(PTZ) ×1, RS-232 ×1	
LAN		10/100 Base-TX Ethernet(RJ-45) – Static / DHCP / DDNS	
Network	Transmission	Video Dual-Stream (Local recording & Network Transmission)	
	Client	Live Monitoring, Playback & Backup, PTZ Control & setting, Snapshot	
	Web-view	Live Monitoring, Playback, PTZ Control	
Other Functions		Multi-Language, Firmware Upgrade by USB & Network Configuration Import & Export, Water-Mark, Alarm out for Events & Video loss E-mail Notification/Alarm/Buzzer for Events, Warning for System Over-Temp External keyboard control	
Power		AC 100 ~ 220V	
Storage Temp/Humidity		-20 ~ 60°C / 20 ~ 95% RH	
Operating Temp/Humidity		5 ~ 40°C / 20 ~ 80% RH	
Dimension (W×D×H)		430×380×95, Packing : 520×470×230 (mm)	
Certification		CE, FCC, RoHS	

Chapter 2. Installing Product

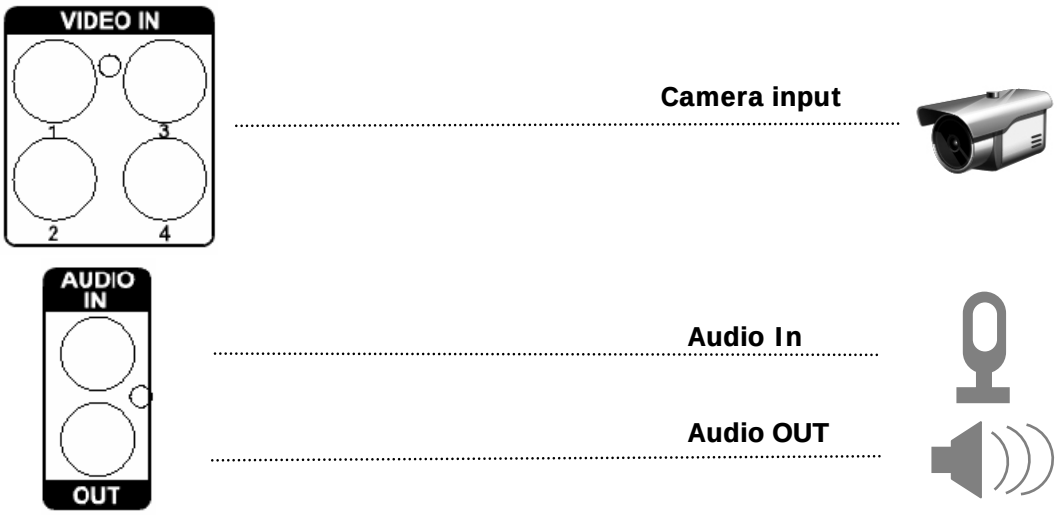
2.1. Installing HDD

- Some HDD can be installed inside the product.
- If HDD was not installed in the product, please install HDD first as follows.
- Be careful not to be harmed by sharp edges of the product.

<table>
<tr>
<td>(1) Loosen screws on both sides and back to detach the product cover.
  </td>
<td>(2) Lift the end of top cover and pull out from product.
 
</td>
</tr>
<tr>
<td>(3) To install HDD, you should upside down the set, and HDD can be installed onto bottom with screw.
  </td>
<td>(4) Connect HDD Power and cable to HDD.
  </td>
</tr>
<tr>
<td>(5) Insert top cover to product as side picture and tighten screws again.</td>
<td>  </td>
</tr>
</table>

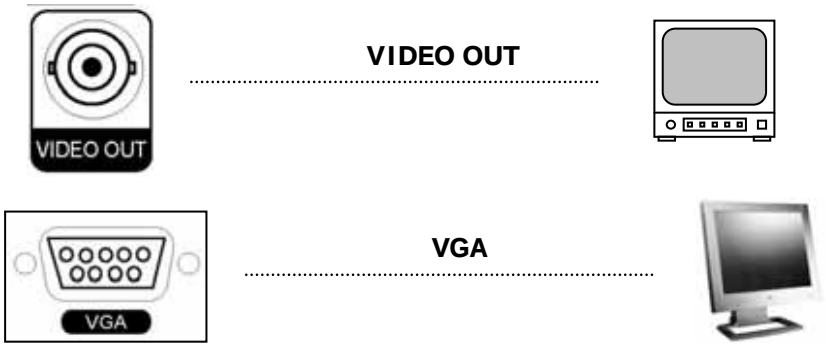
2.2. Connecting Camera and Audio device

- Connect video signal cable shaped as BNC into VIDEO IN port on rear of the product.
- Connect RCA cable from microphone into AUDIO IN port on rear of the product.
- Connect RCA cable into AUDIO OUT port on rear of the product and into audio device.



2.3. Connecting Monitor

- Connect Video out port and VGA port in DVR to monitor

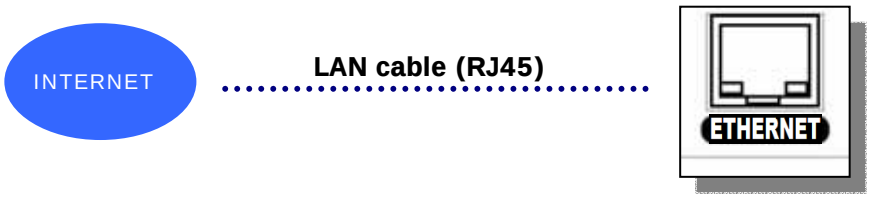


2.4. Connecting Optional device

- You can connect and control the PTZ device supporting RS-485 communication.

2.5. Connecting Network

- Connect LAN cable (RJ45) to Ethernet port on rear of the product.



2.6. Connecting Power Supply

- Connect provided power cable to AC-DC adaptor.
- Connect the adaptor to DC power port on rear of the product.
- Connect AC power plug to the plug socket.

Chapter 3. Introduction

3.1. Boot Screen

Figure 3-1

'Boot Loading' is shown on the screen after the system booting (Figure 3-1) and the booting process is started to operate.

Figure 3-2

The authentication process would be started for the security of the system (Figure 3-2), when the booting process of Figure 3-3 is completed. The default password from factory is "0000" and can be changed by an administrator at the SETUP MENU.

3.2. SYSTEM OSD

Figure 3-3

The general indication of the system is displayed on the main screen (Figure 3-3)

Camera Name	It indicates the camera channel and name.
Operation Status of System	It indicates the current operation of the system. R : The current status of the system is Recording. : The current status of the system is Motion Detection. : The current status of the system is Sequence mode : The current status of the system is Alarm detection. : The connection of the device that is connected to USB. : The current status of the system is PTZ control status. : The current status of system is the connected Network status
STATUS BAR	This system supports HDDs up to 4 that are indicated as A, B, C, D. A : xx% (Recorded Space Ratio), Currently doing Record on HDD A : Normally Installed HDD. A : None (HDD is not installed or unavailable HDD is installed.)
Date & Time	It indicates the time & date that are set up on the current system.

3.3. The Menu of DVR System

It is the setup process for the DVR SYSTEM. Users can adjust and control it for their needs before starting to use it. This process sets up the environment of the DVR SYSTEM. Users should confirm each menu before starting to use the system.

Figure 3-4

Details of Figure 3-4

LIVE	DISPLAY COLOR SEQ DWELL TIME(SINGLE) SEQ DWELL TIME(QUAD) SPOT DWELL TIME(SINGLE) SPOT DWELL TIME(QUAD) POSITION PRIVATE ZONE OPTIONS	NETWORK	NETWORK TYPE STREAM DDNS NETWORK SETUP ACCESS LIST
CAMERA	CAMERA SETUP PTZ PROTOCOL PTZ PRESET PTZ SCANPOINT	STORAGE	FORMAT HDD SMART OPTIONS
RECORD	REC PROPERTY SCHEDULE MOTION DETECTION SENSOR DETECTION VLOSS E-MAIL E-MAIL SCHEDULE ALARM CONTROL ALARM SCHEDULE OPTION	SYSTEM	TIME UPDATE CONFIG SETUP OPTIONS USER SHUTDOWN

※ To move sub-menu from the main-menu, push the "SEL" button, and "Menu" button is back to the main-menu from the sub-menu.

Chapter 4. Setting up the DVR System

4.1. SETUP - LIVE

This menu to set up the environment about the OSD display in DVR system.

Entry Model Standard Model

Figure 4-1

This chart is for the SYSTEM MENU of Figure 4-1.

DISPLAY	It sets up the display about the current status of OSD status.
COLOR	It changes the BRIGTNESS, CONTRAST, and COLOR of CAMERA.
SEQ DWELL TIME (SINGLE)	It sets up the time interval between the images of each CAMERA, which are displayed progressively in full screen.
SEQ DWELL TIME (QUAD)	It sets up the time interval to display the image of CAMERA progressively in QUAD Mode.
SPOT DWELL TIME (SINGLE)	It sets up the circulation time interval for FULL SPOT SCREEN. **(Standard model ONLY)**
SPOT DWELL TIME (QUAD)	It sets up the circulation time interval for QUAD SPOT SCREEN. **(Standard model ONLY)**
POSITION	It sets up the video position of the each channel in live screen.
PRIVATE ZONE	It sets up the private zone of the each channel in live screen.
OPTIONS	It sets up the other options of display in OSD screen. It sets up the de-interlaced scanning, event pop-up, VGA frequency and video detection.

*** Press the Menu Key of remote controller or click the right button of mouse if you want to return to Previous Menu from current Menu or return to Main Screen from current Menu.**

4.1.1 DISPLAY

This part is how to display on OSD chart like DISPLAY MENU of Figure 4-2.

Figure 4-2

This chart is for the DISPLAY MENU of Figure 4-2.

MENU	Value	Description
CAMERA NAME	ON/OFF	It selects show or not the camera name of each channel in live screen.
CAMERA NUMBER	ON/OFF	It selects show or not the camera number of each channel in live screen.
CAMERA BOADER	ON/OFF	It selects show or not the outline of channel
LANGUAGE	Select	It selects the language to use. If you select a language, the language displayed as you selected.
OSD HIDE	Select	It selects show or not the status bar in live screen.
LEFT MARGIN	00~99	It operates the deflection of horizon/ vertical video by the values (00~99) for sets capacity of display devices. (Analog & VGA Monitor) If you want to change the margin, Please press OK button after select the position of the each margin box to change. Therefore you have to fill the margin number.
RIGHT MARGIN	00~99	
TOP MARGIN	00~99	
BOTTTOM MARGIN	00~99	
VGA or TV ICON	Select	As using VGA or TV, You can select VGA default or TV default.

4.1.2 COLOR

Figure 4-3

It adjusts the color and brightness of the camera (Figure 4-3). To adjust them, at first it moves the channel where is displayed at the right side of the screen. Please click the Left or Right cursor buttons and then change the value of the each menu. After finish, you must press the OK button.

If you want to change the factory setting, press the DEFAULT button. The bellow chart is the changing value area to operate.

Set Value	BRIGHT	-10 ~ +10
	CONTRAST	-10 ~ +10
	COLOR / SATURATION	-10 ~ +10
	COLOR / HUE	-10 ~ +10

4.1.3 SEQ DWELL TIME (SINGLE)

Figure 4-4

It sets up the time interval between images of each camera that was displayed progressively in full screen. The sequence time value with the scroll buttons on the line what you want.

Each channel could be set-up up-to 99 seconds to sequence. Its recommended time is under 10 seconds, you can find out the channel sequence on Live mode ( ) .

4.1.4 SEQ DWELL TIME (QUAD)

Figure 4-5

It sets up the time interval between images of each camera that was displayed progressively in QUAD screen. It rotates the images in QUAD MODE and the time (interval) between the images that are rotated in each QUAD MODE set up from 1 to 9 normally. The set value for each time is 1~99 seconds and set inner 10 seconds. If it operates the sequence function, you will see the sequence image ( ) in the live screen.

4.1.5 SPOT DWELL TIME (SINGLE) – Standard model only

Figure 4-6

The SPOT feature displays progressively the image on the connected monitor in FULL or QUAD SCREEN, even though VIDEO-OUT shows the image as it is from the DVR SYSTEM.SPOT DWELL sets up the time interval to display the image progressively in FULL SCREEN.

For its setup, place the cursor on the time setup category of each channel and select the number that is located on the front panel or remote controller or USB Mouse (Figure 4-6). The set value for each time is 0~99 seconds and must set inner 10 seconds.

4.1.6 SPOT DWELL TIME (QUAD) – Standard model only

Figure 4-7

SPOT QUAD DWELL sets up the time interval that the images are progressively displayed in QUAD screen (Figure 4-7). It is sets up the time interval to display the image progressively in monitor.

For its setup, place the cursor on the time setup category of each quad channel and select the number that is located on the front panel or remote controller or USB Mouse (Figure 4-7). The set value for each time is 0~99 seconds and must set inner 10 seconds.

4.1.7 POSITION

Figure 4-8

It is the setup for video position for the each video channel. You can change the video position of the each channel though to the Left / Right button. It was controlled the value from -10 to 10.

According to the capacity of monitor, the video position does not have standard. The function is to control video screen position.

4.1.8 PRIVATE ZONE

Figure 4-9

It is the setup to private zone for the each video channel. To protect privacy, you can choose the zone which can not be recorded.

4.1.9 OPTIONS

The functions are the De-Interlace, event pop-up, VGA Frequency, Video detect.

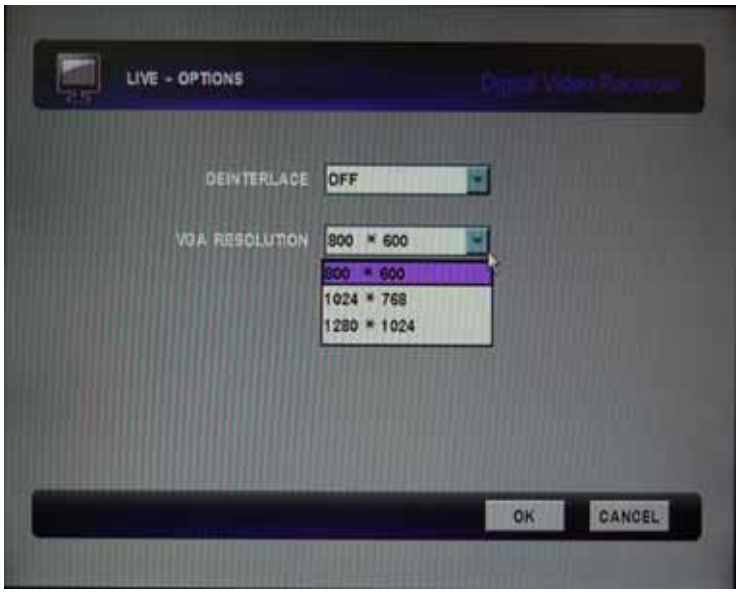


Figure 4-10

DEINTERLACE	It controls the flicker that can threaten the image quality by turning it ON or OFF. The flicker can be appeared in CCTV monitor, when the Image that is saved in the 720X480 resolution is played. For this situation, set it ON mode. And set it OFF mode, if the VGA PC monitor that has no flicker, is used.
VGA RESOLUTION	It can select appropriate VGA resolution according to user's VGA Monitor. (VGA resolution : 800*600, 1024*768, 1280*1024)

4.2. CAMERA

It is the menu to set up the environment about the CAMERA setup and PTZ option in DVR system.

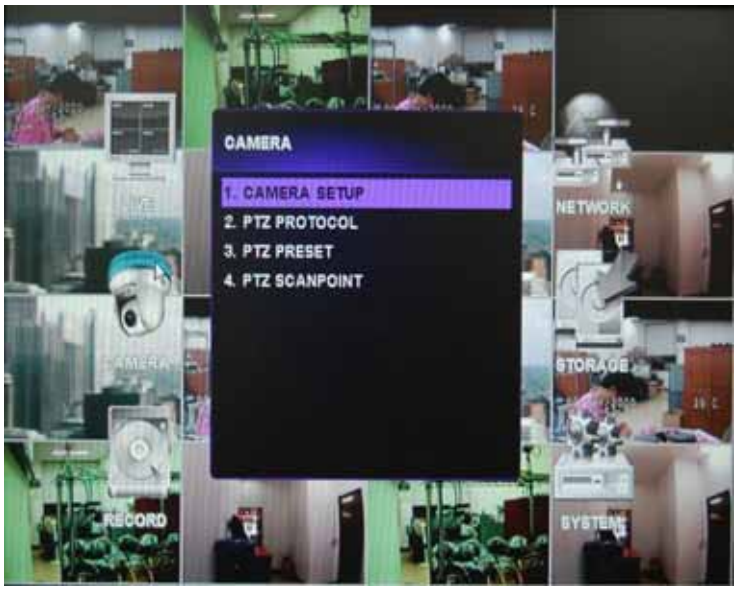


Figure 4-11

4.2.1 CAMERA SETUP

It is the menu to set up the environment about the CAMERA NAME, HIDDEN CAMERA and AUDIO mapping per video channel.

Figure 4-12

The table is the description of camera setup the same as Figure 4-12.

MENU	Value	Description
TITLE	TEXT BOX	Its names for cameras in the blank box and preview name position.
SHOW	ON/OFF	It selects camera video to display or not.
AUDIO	CH-01	Select connected audio channel. (Entry model DVR supports one channel audio only.) (Standard model DVR supports up-to 16th channels audio.)
1~8 AND 9~16	Select	It selects the area of video channel. The initial screen displayed from ch1 to ch8 in video channels. And if press the 9~16 icon, the second screen is displayed from ch9 to ch16 in video channel.

4.2.1.1 TEXT INPUT

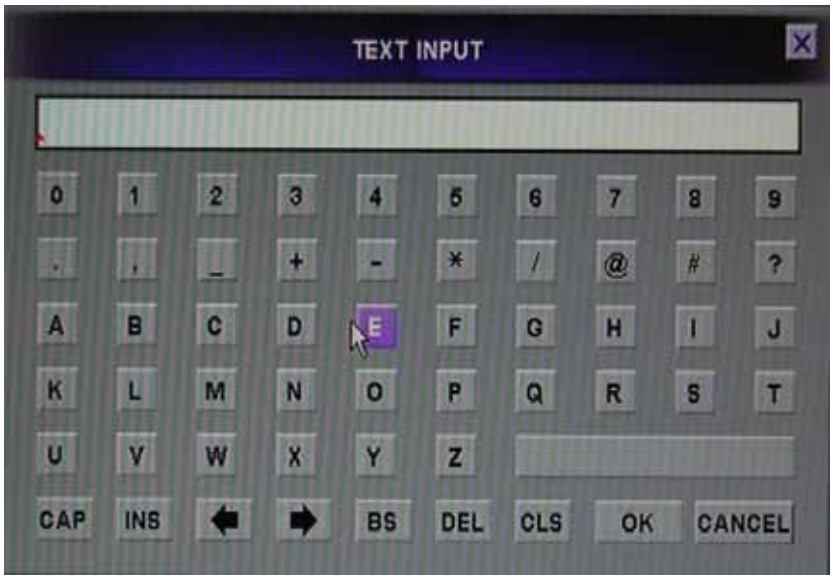


Figure 4-13

You can often see the text input box of Figure 4-13.

It is used to the registration of camera name, user password, the IP Address and the others in DVR system.

Now, you can see the descriptions of text input box. The table is the description of the Figure 4-13.

KEY	Description
NUMERICS	It is the “numeric” icon. Please press the numeric icon then it makes fill the selected numeric.
CAP	It is the icon which is selected a capital letter or a small letter of English. If press the cap key on the capital letter, It is going to change the small letter.
INS	It is the “Insert” key for add a specific character(s) between other characters.
ARROW KEY	It is the “Move” key for cursor position on the text box.
Back Space	It is the “Delete” key for delete left-side character from cursor position.
DEL	It is the “Delete” key for delete right-side character from cursor position.
CLS	It is the “Clear” key for clear text-box

4.2.2 PTZ PROTOCOL

It selects various protocols, such as PAN, TILT, ZOOM, and Focus, for each vendor of the camera.

The DVR supports the interface protocol of RS-485 through the sensor terminal board that is connected to the main board.

Figure 4-14

The PTZ protocol can be selected for each camera. To select the expected camera with the scroll keys and move to the PTZF item (Figure 4-14). Then, push “OK” button to display the name of each protocol. It can assign the PTZF ID from 1 to 255 and can be connected through the RS-485 terminal of the system.

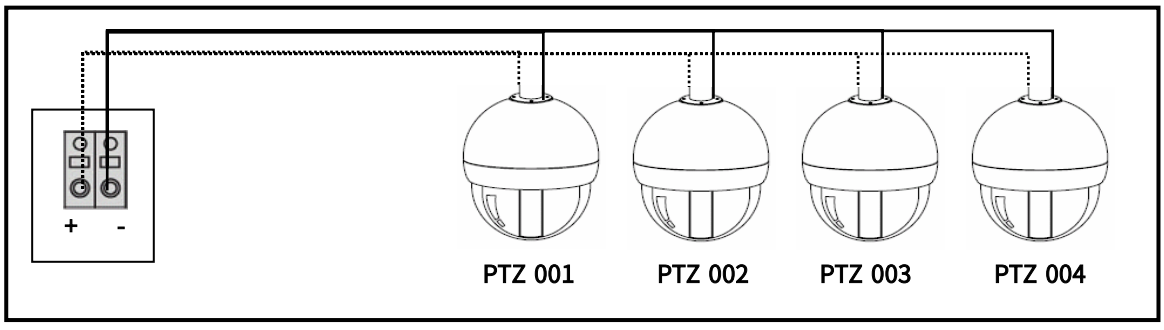


Figure 4-15

Figure 4-15 is an example to connect the PTZF CAMERA to the system.

4.2.3 PTZ PRESET

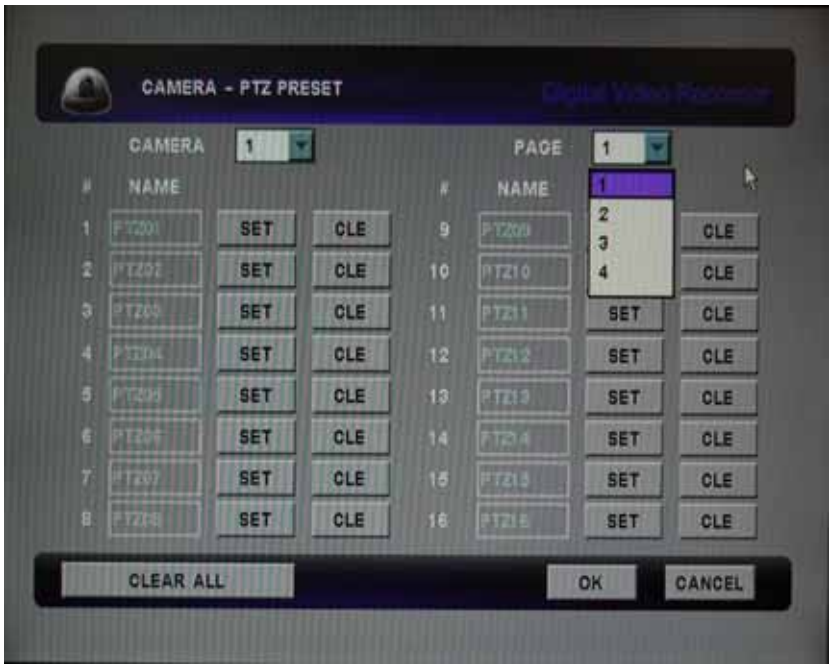


Figure 4-16

It assigned for each camera's preset, click SET icon for select of specific area as see PTZ windows Figure 4-17. Use Up / Down / Left / Right buttons and zoom In / Out buttons for arrange preset position as Figure 4-17.

After finish PTZ01 icon image changed to PTZ01 icon as Figure 4-16.

If you want to disable arranged preset section, click CLE icon image.

For delete all presets, click CLEAR ALL icon. Present section is 4 pages of each camera, each page's section could be have 16 preset regions. That means, each one channel has 64 presets.

Figure 4-17

4.2.4 PTZ SCANPOINT

Figure 4-18

It is the function to group each preset position. Therefore the camera moves to each preset position automatically. Figure 4-18 is the screen of the scan point.

Each preset range has time difference as assigned interval time.

It assigned PTZ preset number as you set 4.2.3 PTZ PRESET of preset number as Figure 4-18. Move cursor to preset number which you want to assign, click “OK” button. Then move cursor specific preset number by up/down button. Assigned range of preset scan points are list 1 to 4.

4.3. RECORD

It is for the record setup of the DVR system.

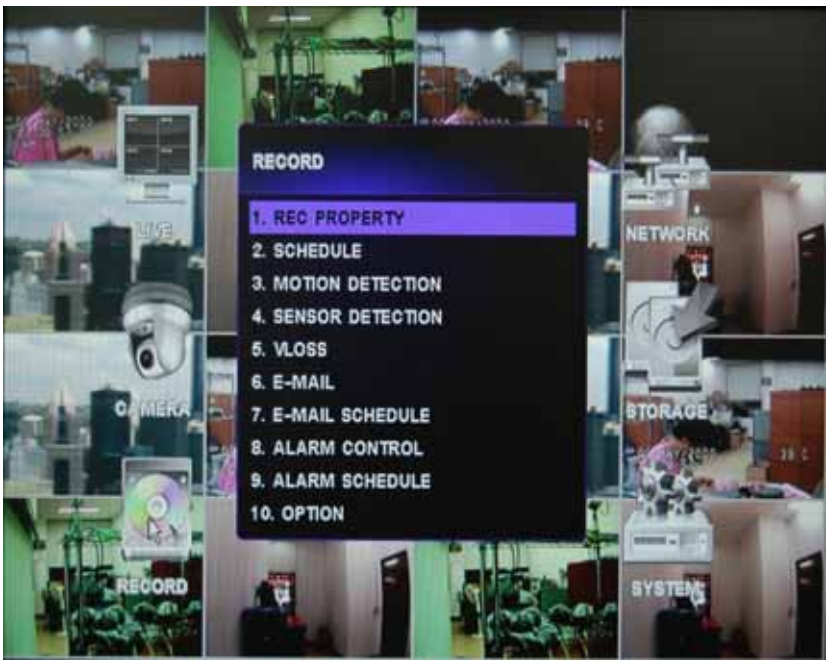


Figure 4-19

Figure 4-19 is for the record Menu.

REC PROPERTY	-It sets up the image store resolution of the entire channel in 360x240, 720x240, and 720x480.(NTSC) -It selects the Store Frame Rate for each channel in 0, 1, 2, 4, 8, 15, 30.(NTSC) -It selects the recording quality for each channel. You can set to the BEST / HIGH / NORMAL / BASIC.
SCHEDULE	It assigns the image recording by Day and Time.
MOTION DETECTION	It sets up the field on the image motion, such as motion sensitivity and motion field.
SENSOR DETECTION	It sets up the sensor Interlock on the image store, such as entire set-up and individual set-up.
VLOSS	It set up the alarm to ring when video-loss occurs in a channel.
E-MAIL	Sending E-mail function for various events happenings.
E-MAIL SCHEDULE	Set-up for Sending E-mail Schedule
ALARM CONTROL	It sets up the field on the time of pre-recording and post-recording, buzzer On/ Off, the time of alarm operation time.
ALARM SCHEDULE	Set-up for Alarm Schedule
OPTION	It sets up for Continuous Recording On/Off and Water-mark On/Off.

4.3.1 REC PROPERTY

Figure 4-20

It selects recording mode for resolution, quality and frame rate. You can see 1 to 8ch's status when you choice 1-8 button as below the screen and 9 to 16ch's status when you choice 9-16 button.

After finish set up, you must press "OK" button then saved. If you press "Cancel" button, the values are not saved and exit.

The chart below is for RECORD PROPERTY of Figure 4-20

<table>
<tr><td>RESOLUTION</td><td>It can be set up in 360X240, 720X240, and 720X480. (NTSC)
Move the cursor to REC RESOLUTION and press OK button.</td></tr>
<tr><td>EVENT</td><td>Use this menu to specify the record quality & Frame rate for Event-situation. (Motion/Sensor/Manual recording)
IMAGE QUALITY can be reduced from BEST > HIGH > NORMAL > BASIC.</td></tr>
<tr><td>NORMAL</td><td>Use this menu to specify the record quality & Frame rate for Normal-situation.</td></tr>
<tr><td>FRAMERATE</td><td>It sets up the rate on the saved frame. This feature changes the rate into 1/2 Frame as the Setup Values on the standard of Real-Time.
The standard setup values are 0, 1, 2, 4, 8.for 120frame.
<table>
<tr><th rowspan="2">RESOLUTION</th><th colspan="3">RATE Range</th></tr>
<tr><th>4 CH</th><th>8 CH</th><th>16 CH</th></tr>
<tr><td>360X240</td><td>0,1,2,4,8,15,30</td><td>0,1,2,4,8,15,30</td><td>0,1,2,4,8,15,30</td></tr>
<tr><td>720X240</td><td>0,1,2,4,8,15,30</td><td>0,1,2,4,8,15,30</td><td>0,1,2,4,8,15</td></tr>
<tr><td>720X480</td><td>0,1,2,4,8,15,30</td><td>0,1,2,4,8,15</td><td>0,1,2,4,8</td></tr>
</table>
It is available to adjust the rate of each channel within the entire frame rate.
So, it can be divided.</td></tr>
</table>

4.3.2 SCHEDULE

The SCHEDULE RECORD assigns the image store of the camera by each time and helps to utilize the store time (Figure 4-21).

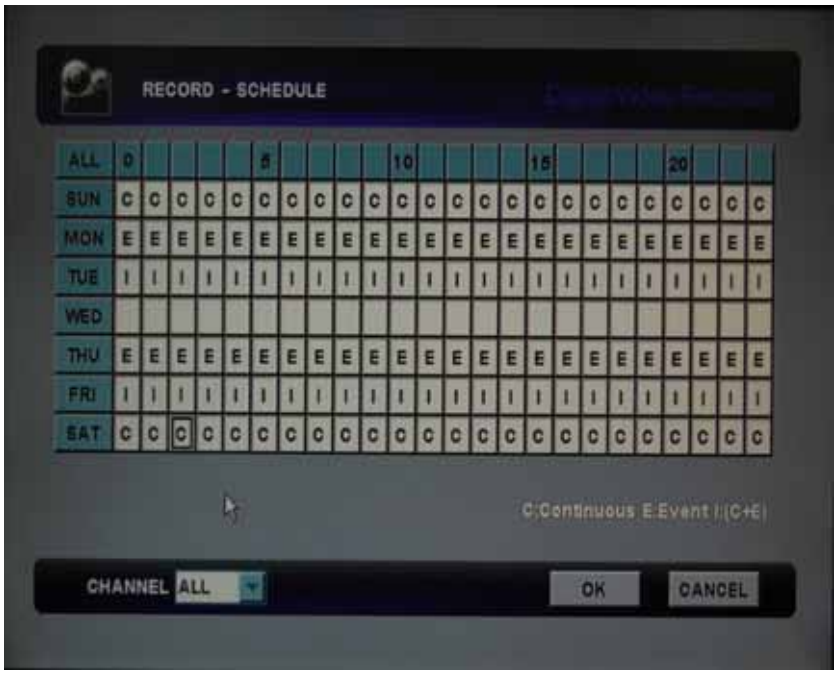


Figure 4-21

For this setup, place the cursor on the wanted channel with the scroll keys and press the Enter button.

If you press Enter button at once, it is sets up “C”. This is Continuous Recording. If you press Enter button once more, it is set up “E” This is Event Recording. There is motion record and sensor record in event record.

If you press Enter button once more, it is set up “I”. This is Continuous and Event Recording.

It can set up the schedule area per channel by select the channel box in under menu.

It would be easy to Schedule set-up if you click Date or Time button.

If you need to set up the all camera, choose “ALL” the channel box.

Then you must press the ok button. If not press the OK button, the set-up would be canceled.

4.3.3 MOTION DETECTION

It is set-up menu for the image motion, such as motion sensitivity and motion field.

And It sets up the alarm out channel each video input channel.

If you use Motion record, you have to select "E" in the each desired Blank of schedule Menu.

Figure 4-22

The chart below is for MOTION DETECTION of Figure 4-22

MOTION AREA	It is set-up menu for the image motion, such as ALL, PART, OFF motion field.
SENSITIVITY	It sets up the sensibility, place the cursor on the field number of the sensitivity and press the number from 0 to 9. The sensitivity of 9 is the best sensitivity. The sensitivity of motion in "9" sensitivity is same to the continuous record. And the sensitivity of motion in "0" sensitivity is same to no record.
ALARM OUT	It sets up the channel of alarm device. There is the single unit channel and multi unit channel.

4.3.3.1 MOTION AREA

The Motion Area is shown in Figure 4-23, when the MOTION AREA on the screen of Figure 4-22 is selected. At the MENU, If it sets up the ALL and PART, The sensitivity organized for the 5 label basically. Then you can choose the sensibility label from the level 0 to 9. To set up the motion area, place the cursor on the field number of the motion area, please press "OK" button, then it sets up the ALL and PART. If it sets up to OFF label of the motion area, the motion recording would be not working.

Figure 4-23

The entire image of the channel is set up as the motion detection field, when the ALL is selected. The motion detection field can be selected like Figure 4-23, when the PART is set up.

For this setup, place the box on the wanted block area of the image and press the OK button to operate the motion detection on the wanted block. The part motion detection field can be selected like Figure 4-24, Figure 4-25.

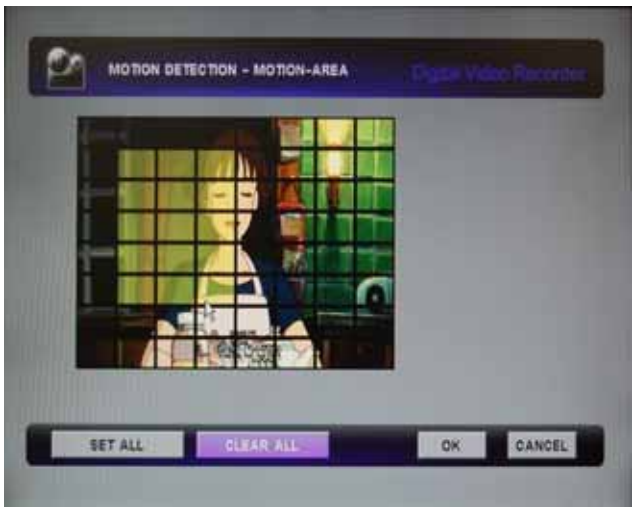


Figure 4-24

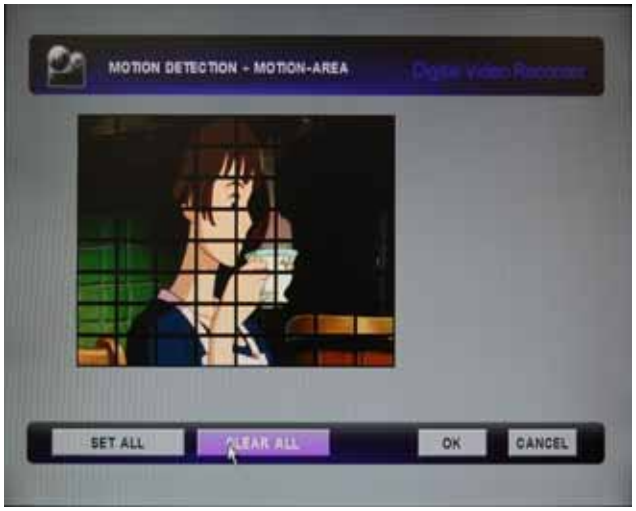


Figure 4-25

If you press CLEAR ALL button, the motion detection area would be cleared and the value of motion area is changed OFF. The status of CLEAR ALL is the status of no record for motion detection.

The motion field has 8 blocks on length and 8 blocks on height like Figure 4-25 and total 64 blocks can be selected to operate this feature.

4.3.3.2 SENSITIVITY

The sensitivity label is from 0 to 9. The sensitivity of 0 - it means that the area of motion detection is not working. And the sensitivity of 9 - it means that the all area of motion detection is working. Namely the motion area of 9 is ALL .The label of sensitivity is high sensitivity as high as the number is better than 0 label.

4.3.3.3 ALARM OUT

It sets up the channel of alarm device. There is the single unit channel and multi unit channel. Place the cursor on the field number of alarm out and press the alarm channel number. You can see the setup window of the Figure 4-22.

4.3.4 SENSOR DETECTION

As Figure 4-26, it consists of Recording channel, Sensor type, Alarm out port by sensor channel for systematic operation.

If you use Sensor record, you have to select "E" in the each desired Blank of schedule Menu.

4.3.4.1 THE ASSIGNED RECORDING CHANNEL

It assigned single channel and multi channel.

Regarding single channel, select a channel (camera) to record data in "Record" menu as Figure 4-26.

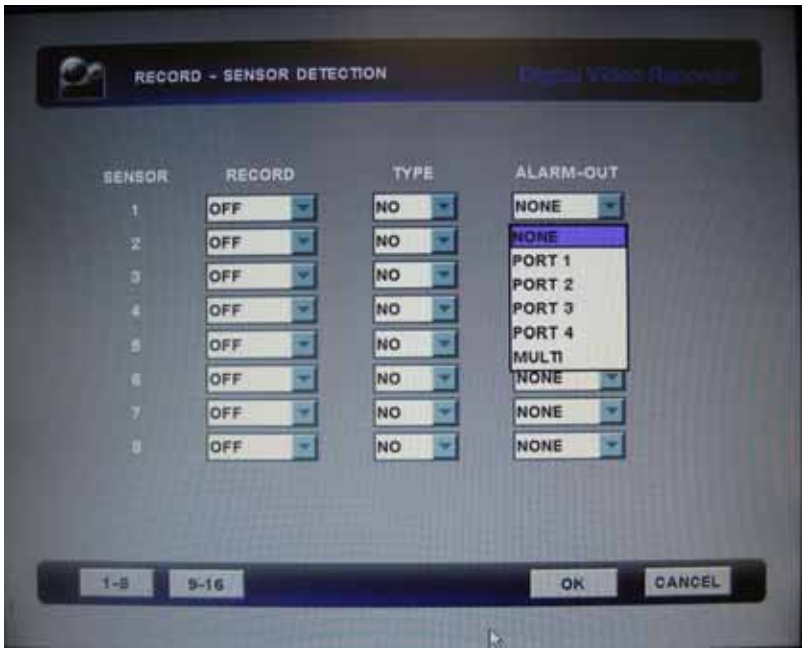


Figure 4-26

Regarding multi channels, select some channels (cameras) to record data in “Record” menu as Figure 4-27. Also you can choose ALL or expected channels.

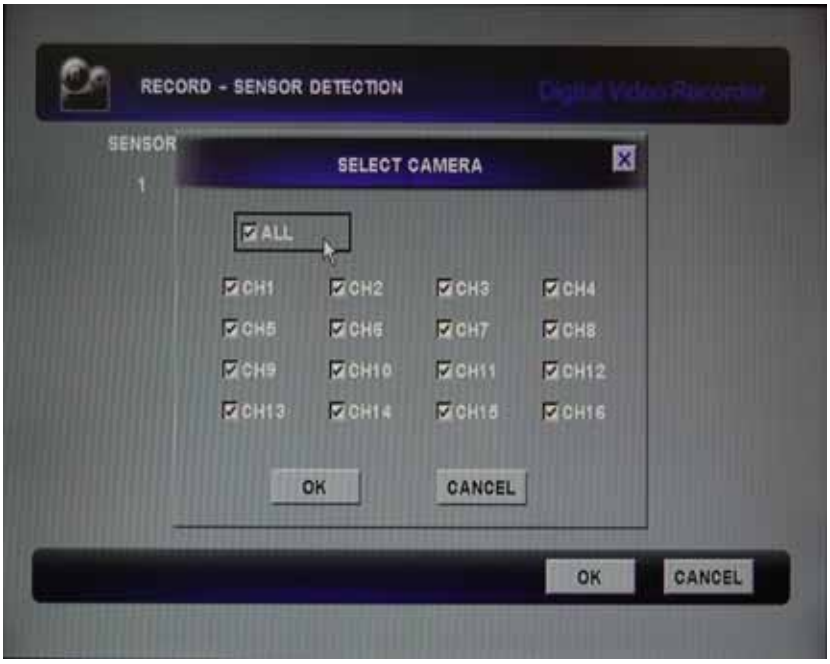


Figure 4-27

4.3.4.2 SENSOR TYPE

This sensor device has two types of NC (NORMAL CLOSE) and NO (NORMAL OPEN). Users should select NC or NO type on DVR system to operate the exterior input sensor for specific purpose.

To assign NC/NO, click “OK” button on the type select box as Figure 4-26 then choose sensor type.

4.3.4.3 ALARM OUT

It assigned alarm out to link with sensor. You can see the setup window of the Figure 4-26.

4.3.5 VLOSS

If you set the Alarm-out to port1, Alarm will ring when video-loss occurs in a channel.

It is possible to set-up to various channels as Figure 4-28.

Figure 4-28

4.3.6 E-MAIL

When any event happens, it will be notified to the registered email address by E-mail.

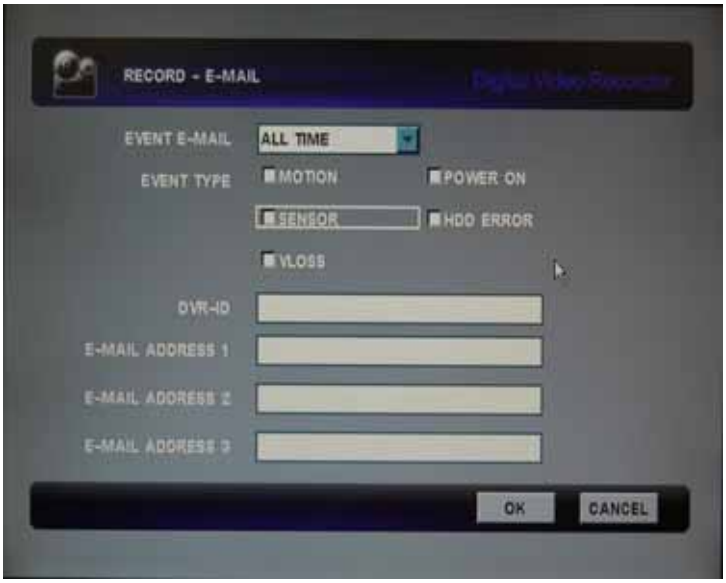


Figure 4-29

Event E-mail	Select “ALL TIME” or “SCHEDULE” to use Email notification.
Event type	Select “Event type” to notify by e-mail.
SENDER ID	Input DVR Name or ID.
E-mail address	Input your email address to receive event information from DVR.

Ex) E-mail message

From : DVR@dvr.com

To : anyone@gmail.com

Sent : Friday, July 24, 2009 6:11 PM

Subject : EVENT MESSAGE

[2009/07/24 18:10:11] [testdvr/192.168.001.121] MOTION ch 1 ON

4.3.7 E-MAIL SCHEDULE

This function works when you select SCHEDUEL as the value of EVENT E-MAIL in E-mail MENU.

You can get email from DVR according to schedule you select date or time.

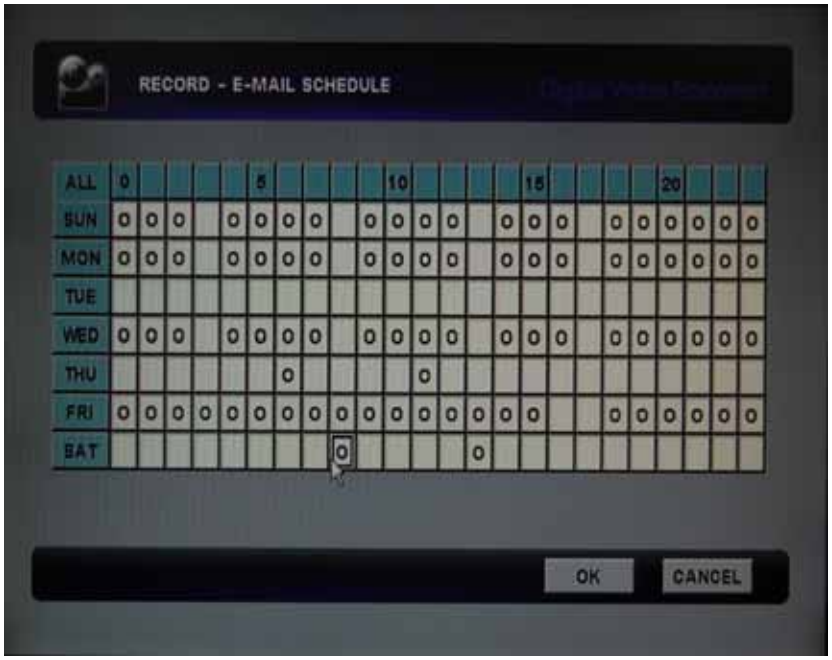


Figure 4-30

4.3.8 ALARM CONTROL

It assigned pre recording time, post recording time, buzzer On/Off, assigned device action.

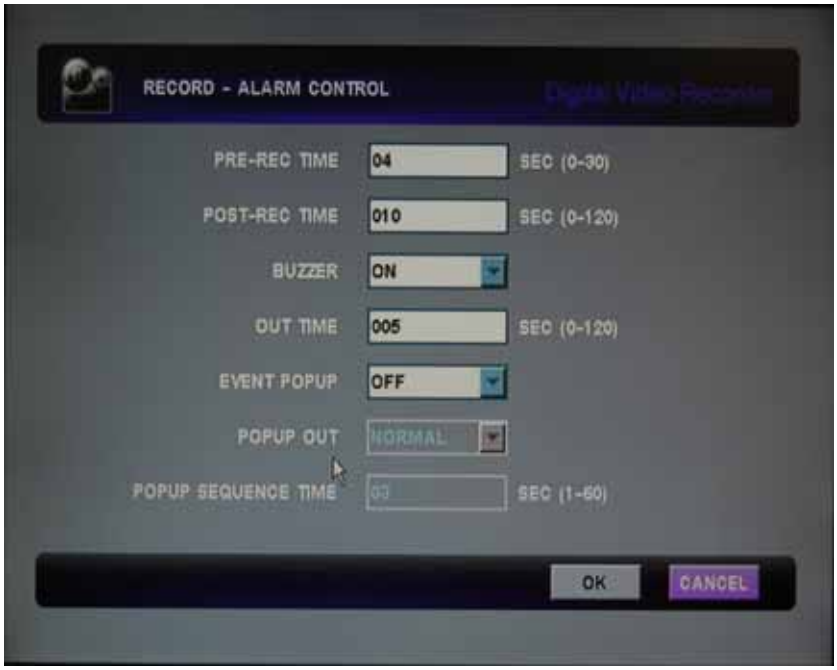


Figure 4-31

The belong chart show ALARM CONTROL function as Figure 4-31

PRE REC TIME	For the recording mode by the motion or sensor detection, it sets up the **pre-record** time and **post-record** time to start it from the time of the motion or sensor detection (Figure 4-31). It will be save recording data from the motion or sensor detection to the selected range of pre-recording time.
POST REC TIME	For the recording mode by the motion or sensor detection, it sets up the **pre-record** time and **post-record** time to start it from the time of the motion or sensor detection (Figure 4-31). It will be save recording data from the motion or sensor detection to the selected range of pre-recording time.
BUZZER	It's the selection of buzzer in main board when alarm is on.
OUT TIME	If buzzer is ON, it makes select active time of buzzer or external alarm device. Alarm device will be active as you selected on time.
EVENT POPUP	When event happens, the channel will pop up if ON is selected.
POPUP SEQUENCE TIME	Switching time to display popup channels.

4.3.9 ALARM SCHEDULE

If you select the date or time you want , the Buzzer goes off, after the value of alarm-out was chosen as any value in each sub menu of EVENT, when the related things happen during the selected times.

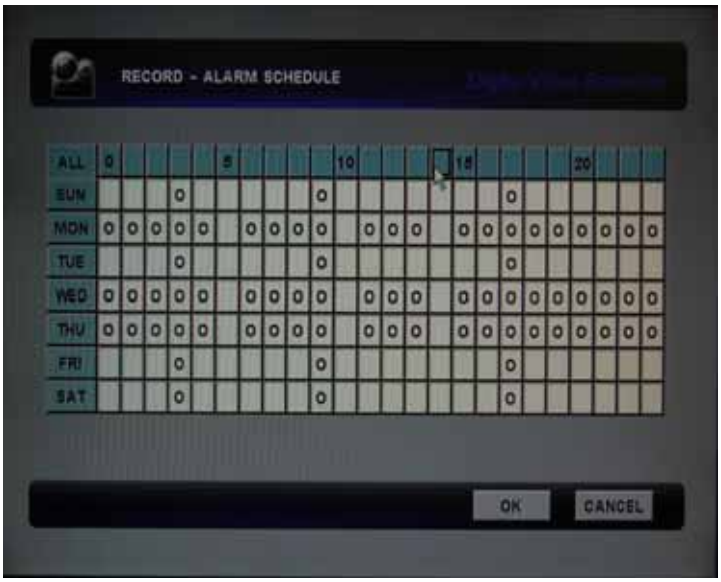


Figure 4-32

4.3.10 OPTION

The menu is the other functions of recoding which consist of 'CONTINUE REC' for continuous record ON/ OFF and 'Water Mark' for prohibit tinseled of recording data.

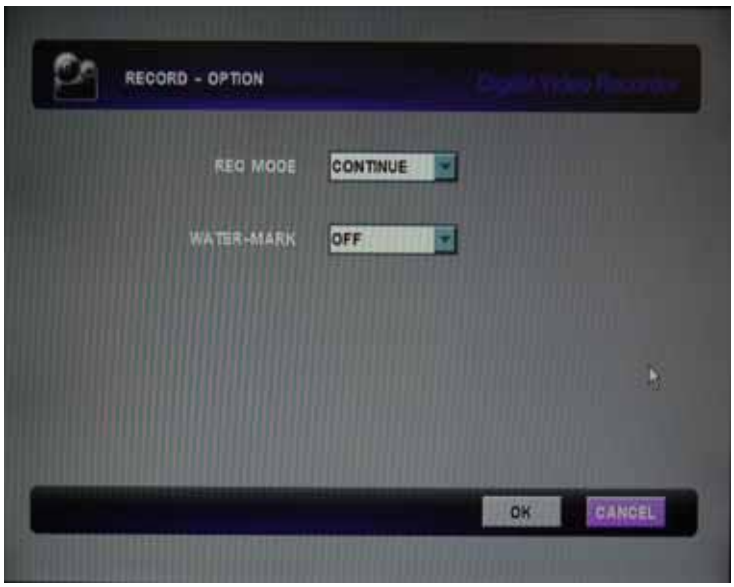


Figure 4-33

REC MODE (Recording Mode)	Schedule – System records according to recording schedule. Continue – System continue recording all day long. Event – Event recording will work regardless of schedule mode.
WATER MARK	If you select ON in water-mark window, the recording data will include water-mark.

4.4. NETWORK

It is for the NETWORK setup of the DVR system.

Figure 4-34

4.4.1 NETWORK TYPE

It sets up the network type such as STATIC, DYNAMIC, PPPOE.

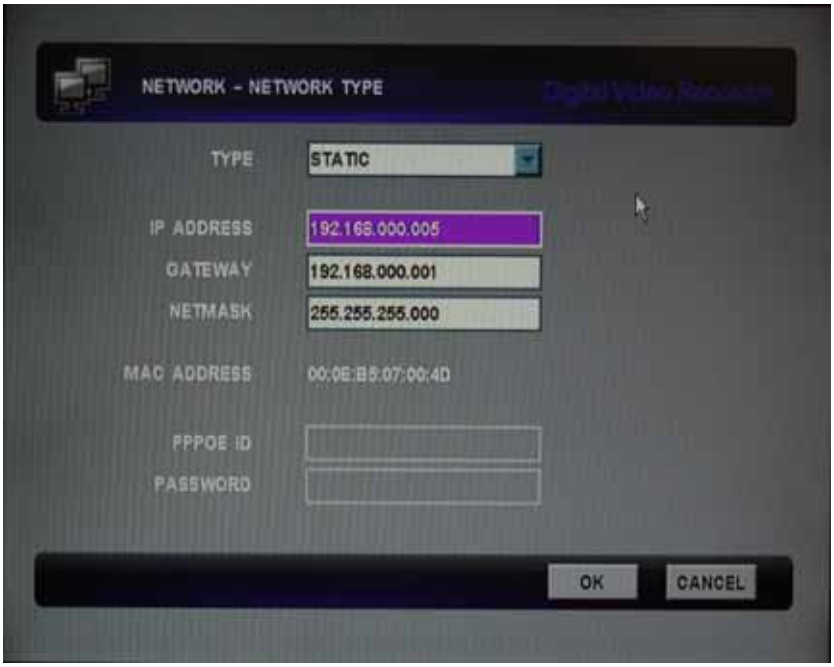


Figure 4-35

4.4.1.1 STATIC

As the network environment that uses the static IP, it can be operated after inputting the information of IP ADDRESS, SUBNET MASK, and GATEWAY. Figure 4-35 shows the set-up example for the static IP.

Users can input set points with the number buttons on the remote controller, after placing a cursor on each field. The set-up of network is completed by pushing MENU button when the input of set points is finished.

4.4.1.2 DYNAMIC

When the DYNAMIC is selected, users automatically get the IP ADDRESS through the connected network and the indication of PLEASE WAIT is shown during the acquiring the IP ADDRESS.

4.4.1.3 ADSL(PPPOE)

It is the network that uses the Internet service from Internet service providers (ISP). Users can connect the network by typing in the ID and password that are authenticated to users by ISP.

Place the cursor on the blank and push the ENTER button to see the character arrangement. And then, select the characters to type in the ID and password.

4.4.2 STREAM

You can set up the recording rate and Network transfer rate separately.

If you select ON in dual streaming, the network transfer rate can be selected in accordance with desired value. If you select OFF in dual streaming, the network transfer rate follows the recording rate.

3 kinds of parameter can be chosen , the maximum frame per second in 120 Frame in CIF.

Figure 4-36

RESOLUTION	360×240, 720×240, 720×480
NORMAL	Basic, Normal, High, Best
FRAME	1, 2, 4, 8, 15, 30

4.4.3 DDNS

DDNS supports the Dynamic IP users to connect automatically their network regardless of the change of the IP ADDRESS, when data is registered in DDNS. It is managed by the DDNS server.

But, the users should consult with Manufacturer before their operation, if they want to build the network on the special network or for their own special management. There are 4 kinds of DDNS server as Figure 4-37. Among them which 4 kinds of DDNS server, OFF means “Disable”, the others are “Enable”. IPUPDATER.COM and DYNDNS.ORG are world wide and free DDNS servers. After you register these sites, input each ID/ PW then click connection button. Finally, DDSN set-up is done, then the window display DDNS connection status as below. If you choose NICEDDNS, you can see specific DDNS URL. If you choose other names, you can modify DDNS URL. For assign, click “OK” button and input URL on the text box of window.

DDNS URL is www.niceddns.com.

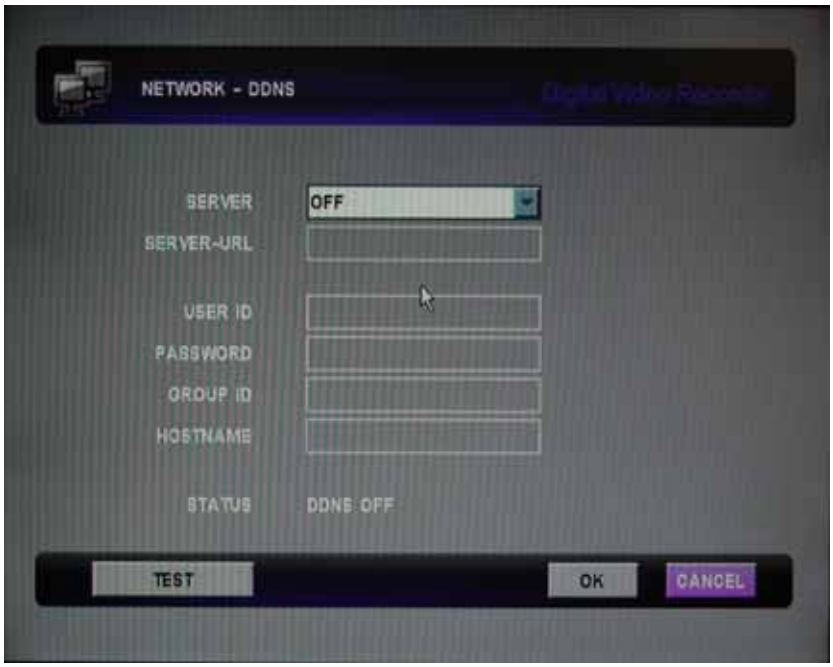


Figure 4-37

4.4.4 NETWORK SETUP

It sets up client port, web port and band width.

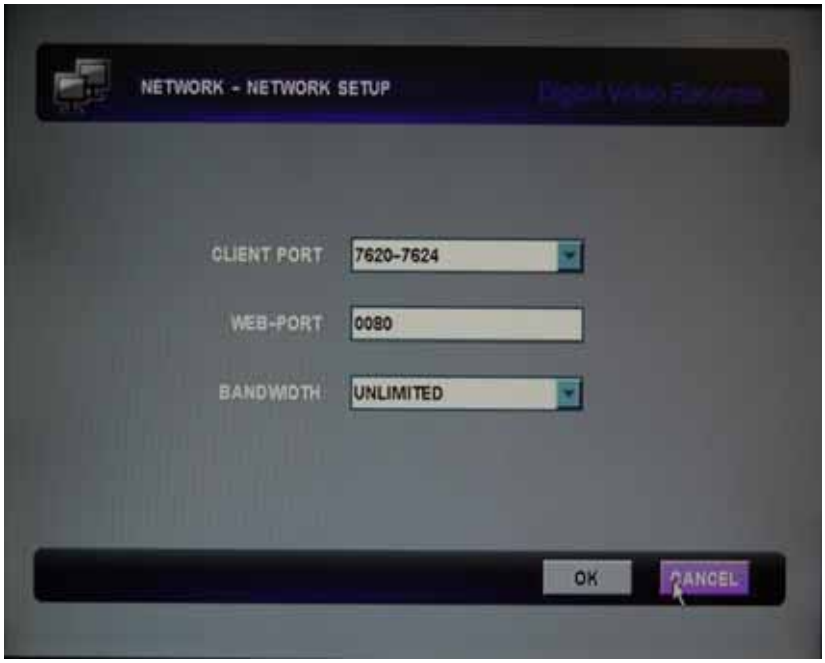


Figure 4-38

4.4.4.1 CLIENT PORT

It is for the assignment of communication port to communicate with the DVR system through RMS (Remote Management Software). It is recommended to avoid system port and user port that is generally used a lot. Figure 4-38 shows the network port of the default set-up. This port is good to use. Each port is required for RMS operation and should be assigned.

4.4.4.2 WEB PORT

It is used with WEB MONITORING SERVICE. Default port number is “80”.

4.4.4.3 BANDWIDTH

This chapter is for configuring Network Bandwidth connected to DVR and controlling the transferring Video and Audio relate to Network Bandwidth. As a result of this option, it can save Network bandwidth between Remote client connection and DVR. It can be set up to UNLIMITED, 64KBPS, 128KBPS, 256KBPS, 512KBPS, 1MBPS, 2MBPS, 4MBPS, 10MBPS like Figure 4-38. The “UNLIMITED” means that no BANDWIDTH selection for specific configuration. Regarding Network Client, Users feel that low throughput(64KBPS) is transferring data slowly, and high throughput(10MBPS) is transferring data more faster.

4.4.5 ACCESS LIST

Registered IP address is allowed to access DVR.

If you set at least one IP address, then only entered IP address would be allowed to access DVR.

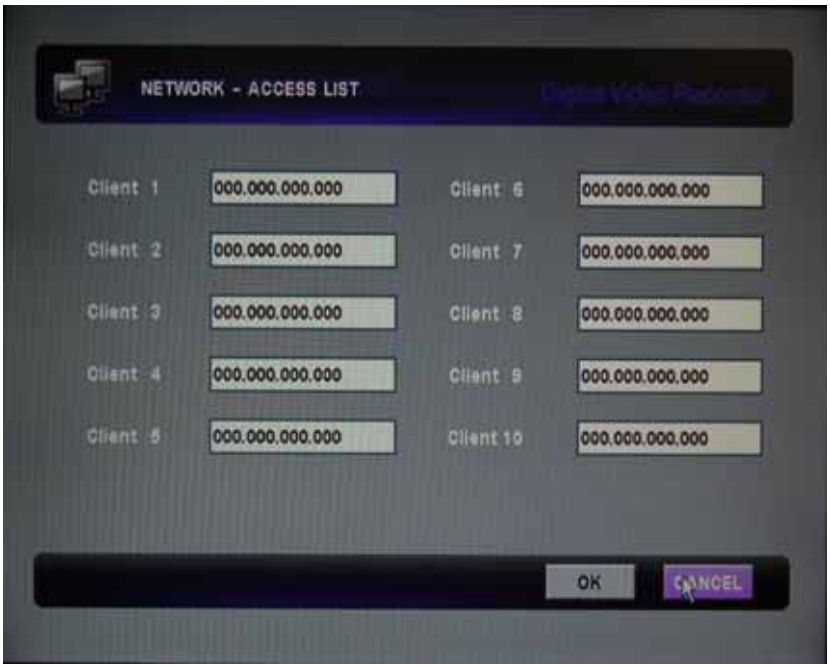


Figure 4-39

4.5. SETUP – STORAGE

It sets up the STORAGE of the DVR system.

Figure 4-40

4.5.1 FORMAT

It sets up each SATA port device, information and formatting hard disk drive.

This is SATA port type as below the list.

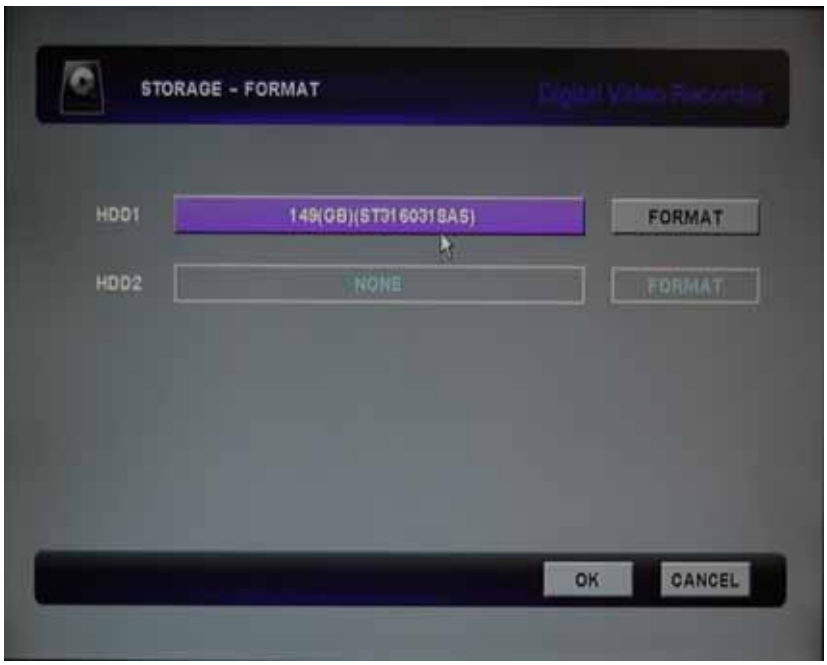


Figure 4-41

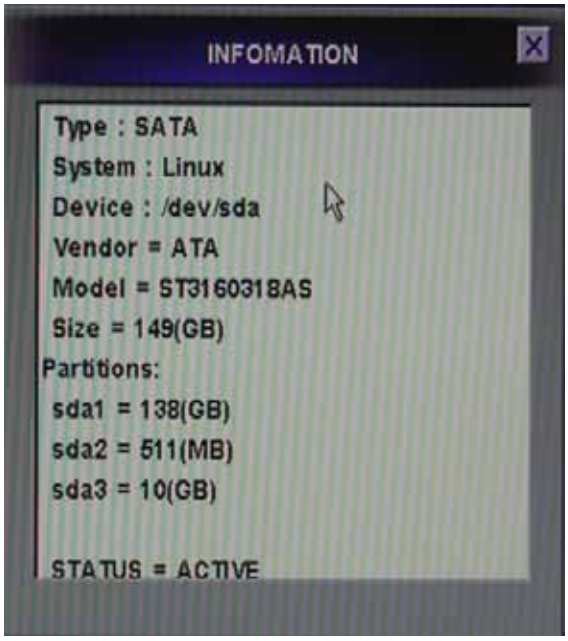


Figure 4-42

4.5.2 HDD S.M.A.R.T

This window shows the temperature of HDD.

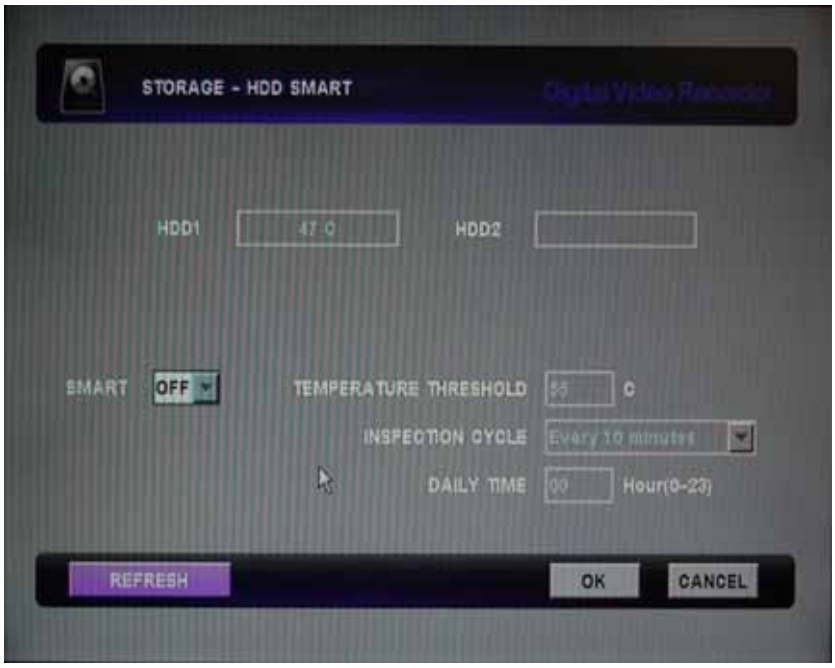


Figure 4-43

If you select “ON” in SMART, you can change the value of the each items.

TEMPERATURE THRESHOLD	The temperature of HDD exceeds the desired value you input, the beep happen and the below MENU appears
INSPECTION CYCLE	How many often the system should check the Temperature of HDD.
DAILY TIME	This inspection cycle as daily means what time the system should check the temperature of HDD.

4.5.3 AUTO-BACKUP – Standard model only

There are two values you can select “EXTEND” or “MIRROR” function.

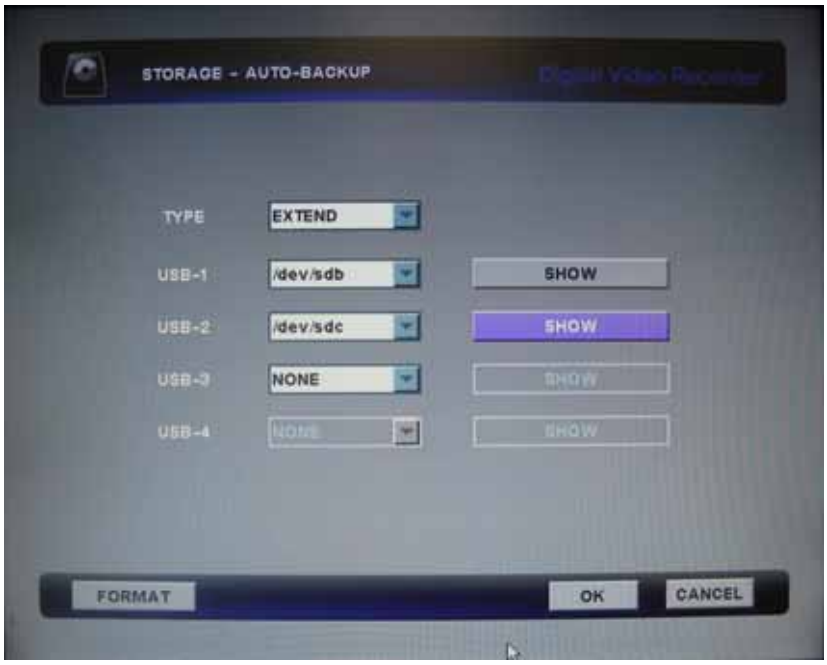
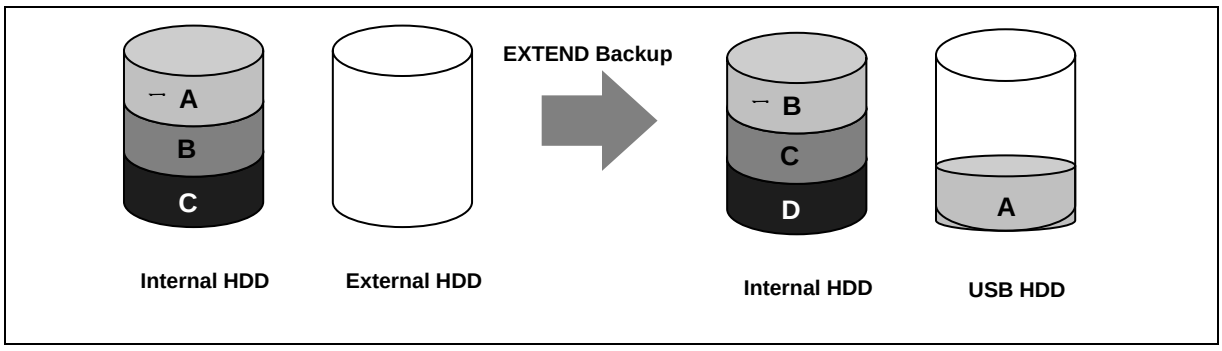
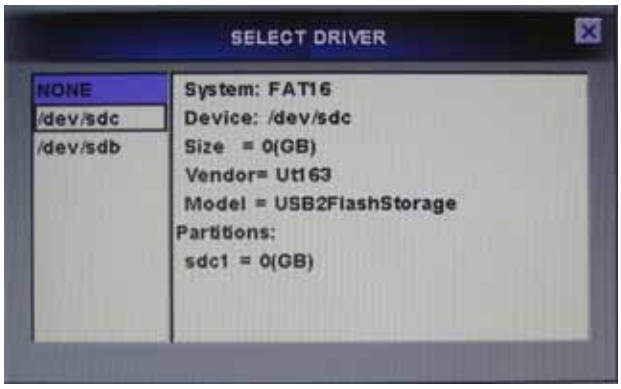


Figure 4-44

EXTEND	When you select “Extend” in Auto backup, if internal HDD is full, Internal HDD start to overwrite data, the elder data removed from internal HDD will be stored in external HDD.
Mirror	The data recorded in Internal HDD also simultaneously recorded in External HDD. In that case, if you proceed to format HDD, External HDD is formatted as FAT32. And the backup viewer included in DVR is copied to external HDD.

*** NOTE : After setting auto backup, when you change the port of external HDD(USB port position), you should set auto backup again.**





<USB MEMORY>

<External HDD>

Figure 4-45

Figure 4-46

<Backup Data List>

4.5.4 OPTION

It sets up the storage option of the DVR system.

Figure 4-47

This is the explanation of STORAGE OPTION in Figure 4-47.

OVERWRITE	Overwrite existing data when hard disk drive was full-filled.
AUTO DELETE	Delete the recorded data as per set up time. The assigned time is per day. ※Attention : please delete the recording data after do you concern the recording data. If do you not concern, the deleted recording data never recover.

4.6. SETUP – SYSTEM

It sets up the SYSTEM of the DVR system.

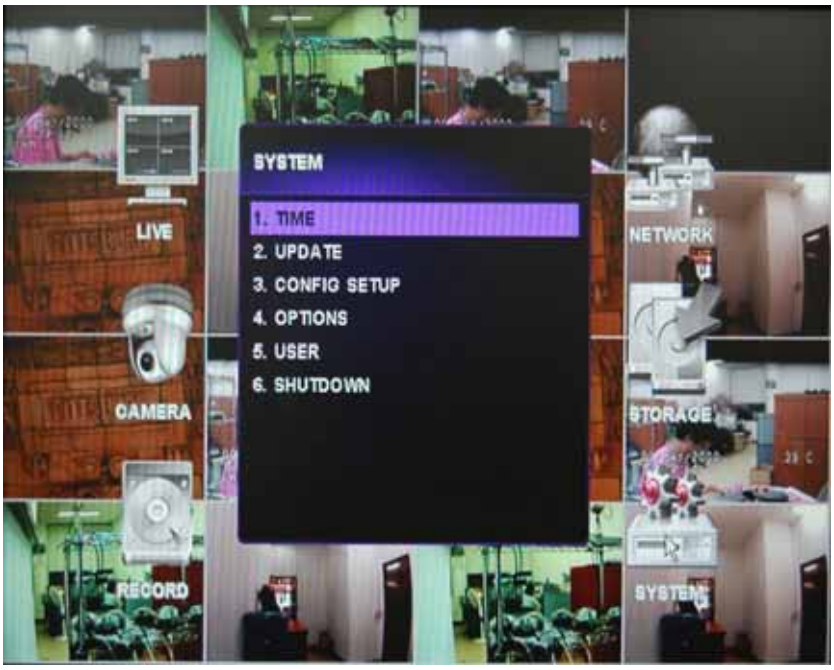


Figure 4-48

4.6.1 TIME

It is sets up the TIME for DVR system.

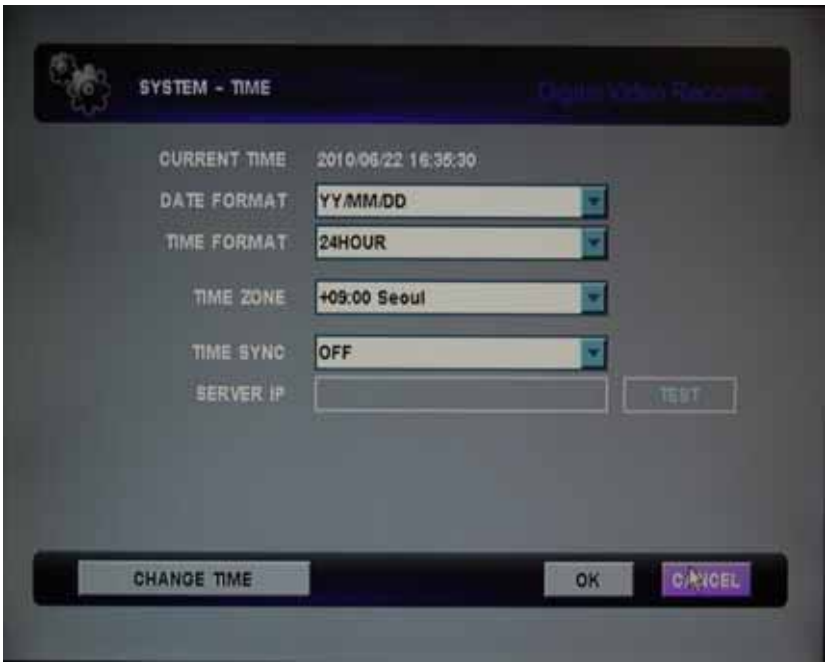


Figure 4-49

It supports current time, date format, time format, world-wide time zone, Day Light Saving ON/OFF and Time sync as Figure 4-49.

4.6.1.1 CURRENT TIME

It displays the current time of DVR system for checking DVR time and actual time. If DVR time is wrong, please modify date format, time format and time zone by manual, and then click CHANGE TIME icon as Figure 4-50. For more details, refer to 4.6.2.6.

4.6.1.2 DATE FORMAT

It selects the time format of DVR system. There are 3 types of the time display - YY/MM/DD, DD/MM/YY, MM/DD/YY. Push the arrow keys on the front panel or remote controller to choose specific format, and then click OK button.

4.6.1.3 TIME FORMAT

It sets up time format between 12/ 24 format. Push Enter key on the menu, and then you can select 24 or AM/PM. If you choose 24 HOUR, the time display is 15:00 at PM 3 o'clock, and if you choose AM/PM, the time display is PM 3.

4.6.1.4 TIME ZONE

It assigns worldwide time zone on the DVR to have Time Sync as Figure 4-50. For Time Sync, move Cursor key on the Time Zone, then push OK button..

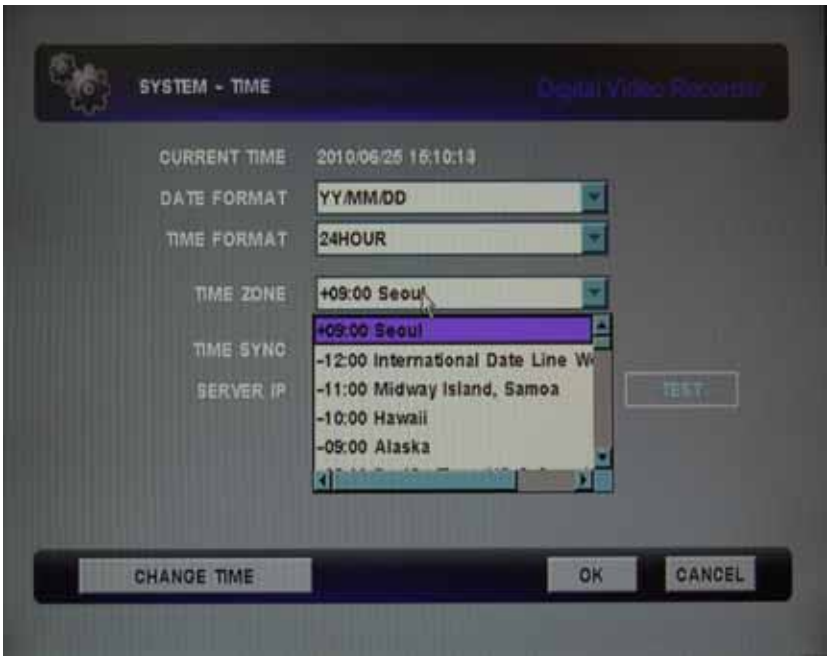


Figure 4-50

4.6.1.5 TIME SYNC

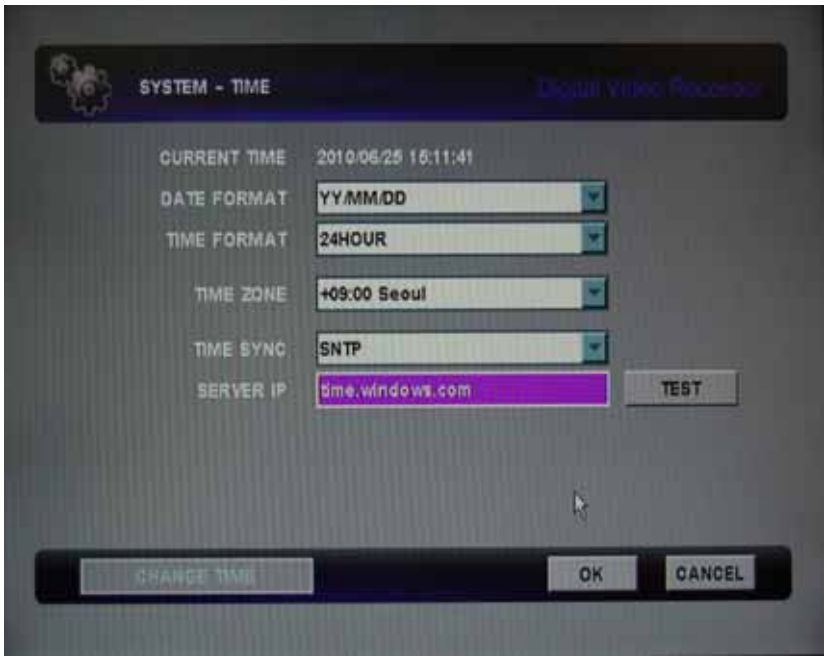


Figure 4-51

TIME SYNC	This function is for synchronizing the time of DVR periodically with that of the connected server by every hour
SERVER IP	Enter IP address of time server. E.g. **time.windows.com**.

4.6.1.6 CHANGE TIME

It assigns time as Fig. 4.6.2.1. If you need to change time on the DVR, select “CHANGE TIME” icon and then select OK button. It shows ENTER TIME on the window box. And then input date, time by using numeric key on Remote controller.

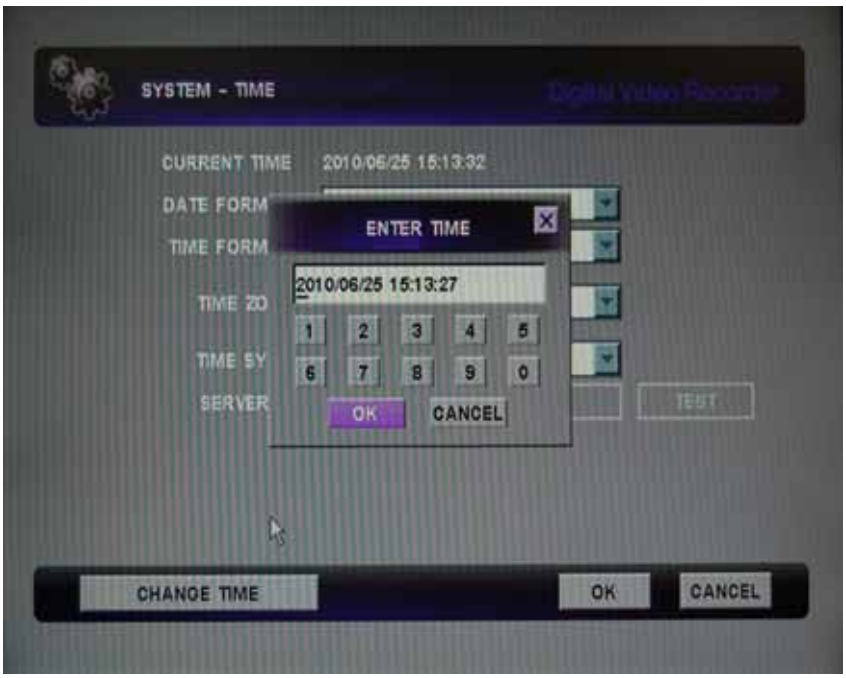


Figure 4-52

4.6.2 UPDATE

It sets up the firmware update for DVR system.

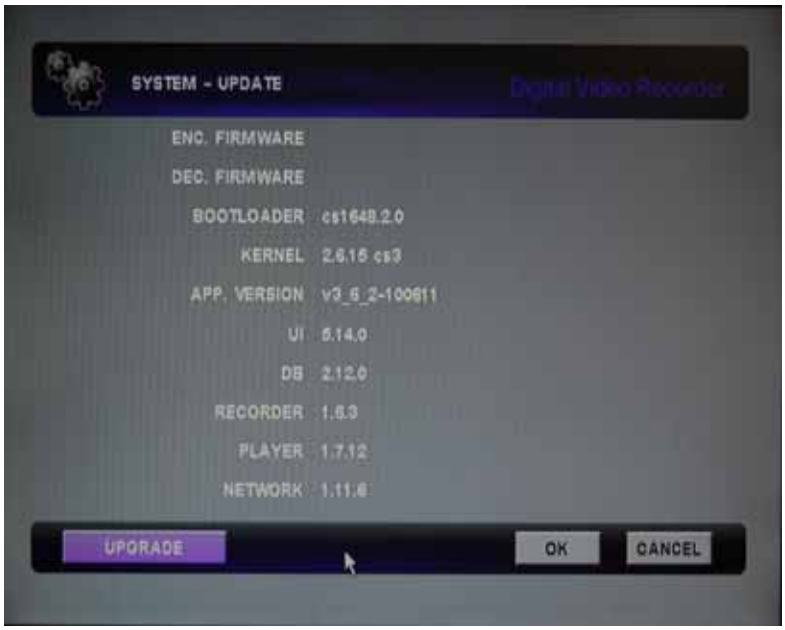


Figure 4-53

This is firmware update and shows firmware status as Figure 4-53. Before go this process, you have to check USB icon on the live screen. If you cannot find USB icon there, check your USB and DVR system. There are two ways to upgrade. One is through USB and through Network. If your network status is not stable, USB upgrade is more recommended, so USB as it could be halt during network update due to increased network traffic.

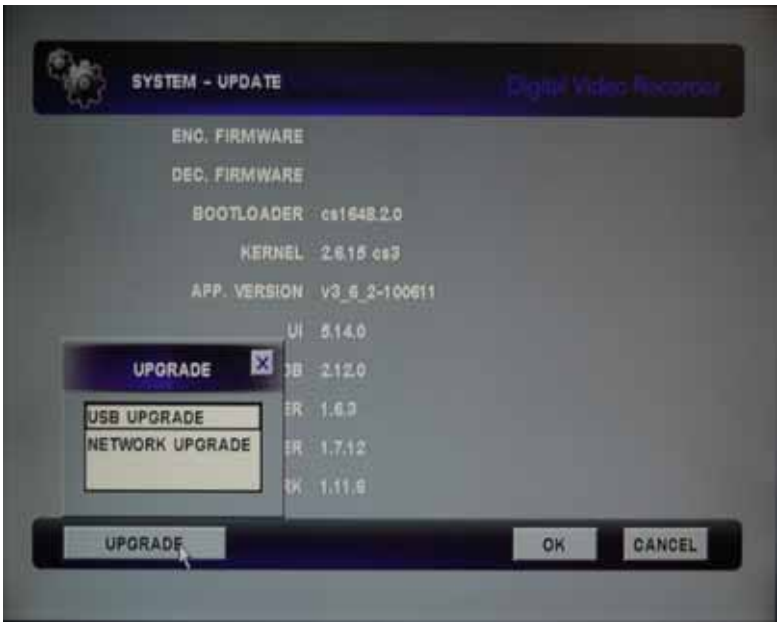


Figure 4-54

This is to choose update method as Figure 4-54. You click UPDATE icon and then choose one of them by using scroll key. And click “OK” icon and then it starts to update the firmware. It takes 2-3 minutes or more and you should be patient and wait until the update process is over.

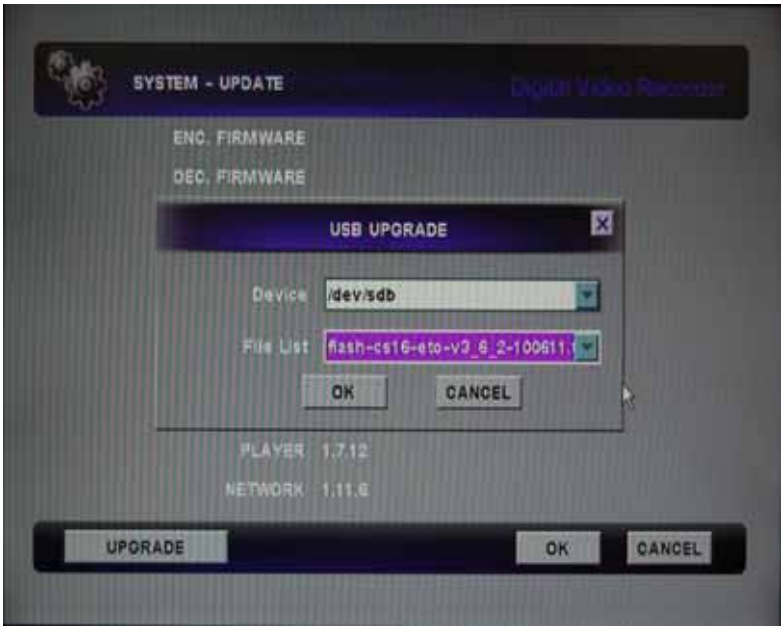


Figure 4-55

This is the process of USB update as Figure 4-55. DEVICE is automatically recognized name and path of DVR system. You can choose any file by using scroll key. Then, click OK button. Normally it takes about 2~3 minutes for update, but you have to wait until all process is over. Do not stop or turn off DVR during process.

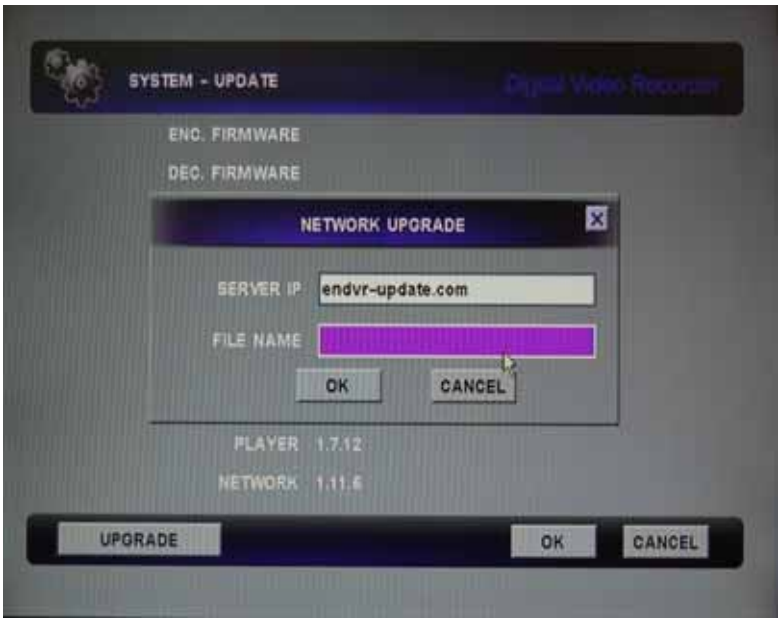


Figure 4-56

This is for network update as Figure 4-56. The assigned server should be used for network update. Network update is less recommended than USB update. "**endvr-update.com**" is for network update server URL as a factory default. But, file name could be changed without notice. So, check it with your vendor. Network update takes more time than USB update does and processing time is variable depending on network status. And please do not stop update process or turn off DVR system during process.

		Entry model	Standard model
FILE NAME	4 CH	dl04-eto.tar.gz	-
	8 CH	dl08-eto.tar.gz	dh08-eto.tar.gz
	16 CH	dl16-eto.tar.gz	dh16-eto.tar.gz

***CAUTION : As do Network Upgrade, Always Check the file name and Server IP**

4.6.3 CONFIG SETUP

It saves the configuration file of DVR system and loads the saved configuration file.

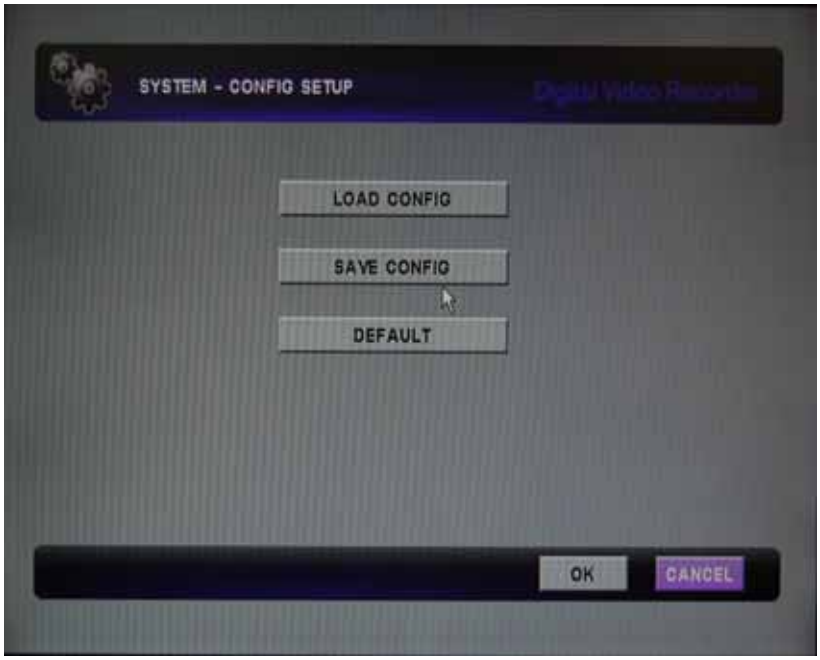


Figure 4-57

SAVE CONFIG - This is to save the configuration file of DVR system setting. It is not recommended to change file name because this file could be used later for any loading. DEVICE means a specific device name and path which DVR system automatically calls. This configuration file should be saved on USB root path, and it's recommended to save on your PC not on USB for safety.

LOAD CONFIG - This is to load configuration file backed-up to the DVR system and you always keep backed-up configuration file to USB root path. If you change file name during the work, you have to change to original file name before loading. You should put on USB to front panel USB port before loading the configuration file.

4.6.4 OPTIONS

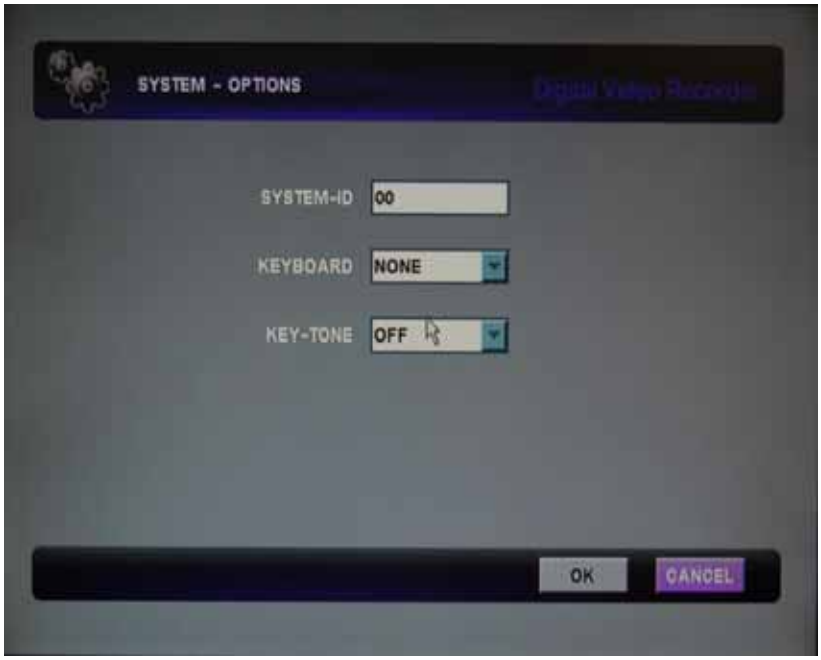


Figure 4-58

This is extra functions of DVR - System ID / Keyboard / Key Tone .

4.6.4.1 SYSTEM ID

User can assign unique ID to each DVR in order to control specific DVR using ID. It is a useful feature when user controls each DVR among them. Move cursor to System ID as Fig. 4-53 and press SEL key. Then, input the specific number of remote controller and press OK button. Now, DVR has its own code. And Remote controller has the same ID to control DVR.

[Example] You input “02” as SYSTEM ID on setup and press OK button. Then, SYSTEM ID is changed to [02] as the SYSTEM ID says on the setup menu. To use SYSTEM ID [02], you have to press “Remote Controller ID” button and “0” and “2” on Remote Controller’s, too.

4.6.4.2 KEY TONE

It assigns key sound when you push any keys on Front panel or on Remote controller. Move cursor to KEY TONE and choose ON/ OFF and then, press “OK” key.

4.6.4.3 KEYBOARD CONTROL

Product support a connection with control keyboard

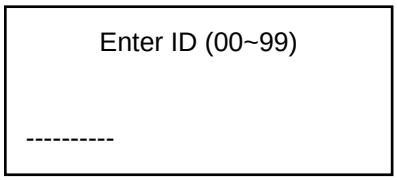
(1) Connect RS-485 port of DVR and RS-485 port of keyboard

(2) Input desire System ID in DVR setup menu

[MENU→SYSTEM→OPTIONS→SYSTEM ID]

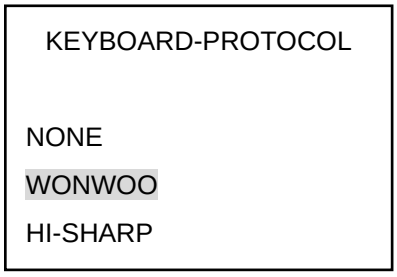
☞ You can choose one system ID from 00 to 99.

☞ If system ID is 00, DVR system will get signal from connected key board regardless of Keyboard ID.



(3) Select Keyboard protocol in DVR setup menu

[MENU→SYSTEM→OPTIONS→KEYBOARD PROTOCOL]



(4) Press mouse on/off button of keyboard

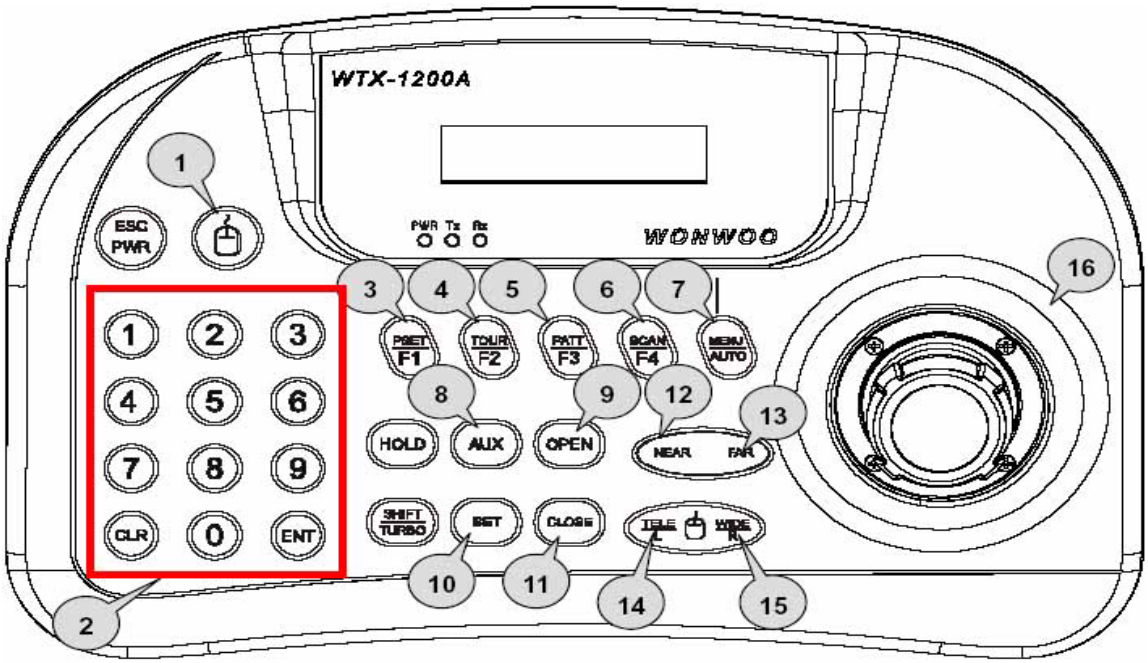
☞ whenever pressing mouse on/off button, keyboard changes to DVR control mode or PTZ camera control mode.

(5) When keyboard indicates DVR mode, press DVR system ID by using number button of keyboard and press ENT button during 2~3 seconds.

Ex) If system ID of DVR is 01, press  + press  (hold)

(6) Then, keyboard indicates DVR ID and you can control DVR.

Button description of WTX-1200A for DVR operation



1. **Mouse Icon** : Change DVR control mode (DVR) or PTZ control mode (WDS)
2. **Red Box** : Number button
3. **F1** : Full screen mode
4. **F2** : 4ch screen mode
5. **F3** : 9ch screen mode
6. **F4** : 16ch screen mode
7. **MENU/AUTO** : Sequence mode
8. **AUX** : Search
9. **OPEN** : short press – Menu / long press – Function
10. **SET** : REC
11. **CLOSE** : Enter
12. **NEAR** : Play / Pause
13. **FAR** : Stop
14. **TELE** : Fast rewind
15. **WIDE** : Fast forward
16. **JOYSTICK** : Direction (◀ ▶ ▲ ▼) Moving cursor in DVR menu.

☞ If you change channel

Press number button and press ENT button

Ex) If you want to go to channel 7, press 7 + press ENT.

4.6.5 USER

ID and Password for the network are given up to 4 to avoid the system overload due to excessive connection on RMS and it intercepts the connection of unregistered ID. ID and Password that are registered on the system should be typed in to connect the RMS.

For the registration, place the cursor on each blank and push the OK button to see the character arrangement. Select the characters to type in.

Figure 4-59

USER	There are two unchangeable user IDs (ADMIN, NETUSER), and additionally you can add four additional USERs by yourself.
PASSWORD	Only passwords for ADMIN and NETUSER are set to '0000'. When you create a new account, make sure that you have to enter new PASSWORD. And don't forget the Password.
SETUP	Only by checking this box, accounts can be allowed to enter SETUP MENU.
REC.F	Checking this box allows users to control and change values about RECORD, PLAYBACK, and BACKUP functions.
NETWORK	Checking this box makes users access or control DVR in NETWORK function.
MONITOR	All users can monitor the current screens.
TIME OUT	When this is set to ON, LOGIN window will re-appear after entered time from any signal input. If you want to log out, you need to go to MENU and select LOG OUT like right picture

Chapter 5. SEARCH

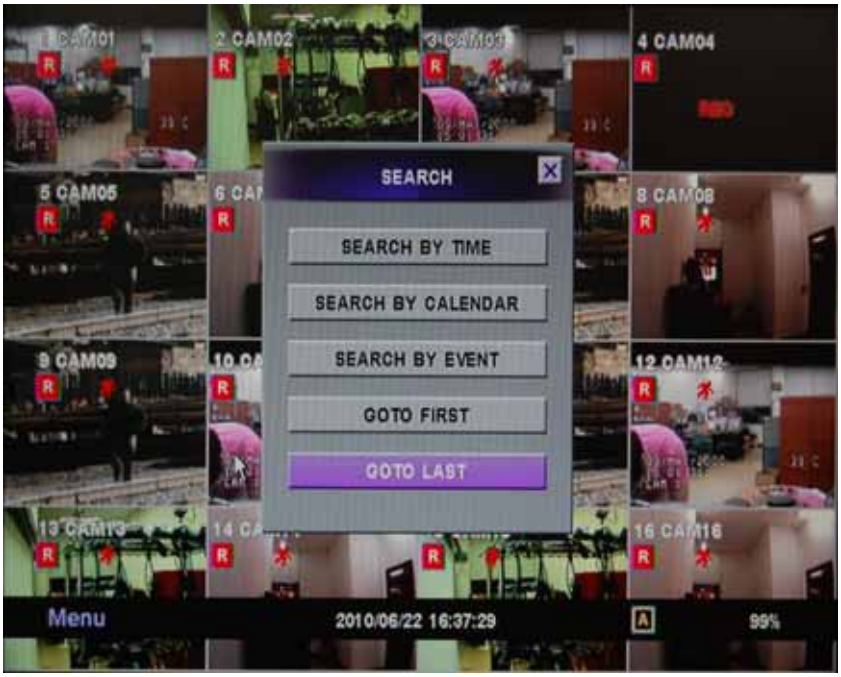


Figure 5-1

This menu searches the saved image data by Time, Date(Calendar), or Event replay (Figure 5-1). For secure reasons, according to select option, DVR system must have ID and password to assigned users.

5.1. SEARCH – SEARCH BY TIME

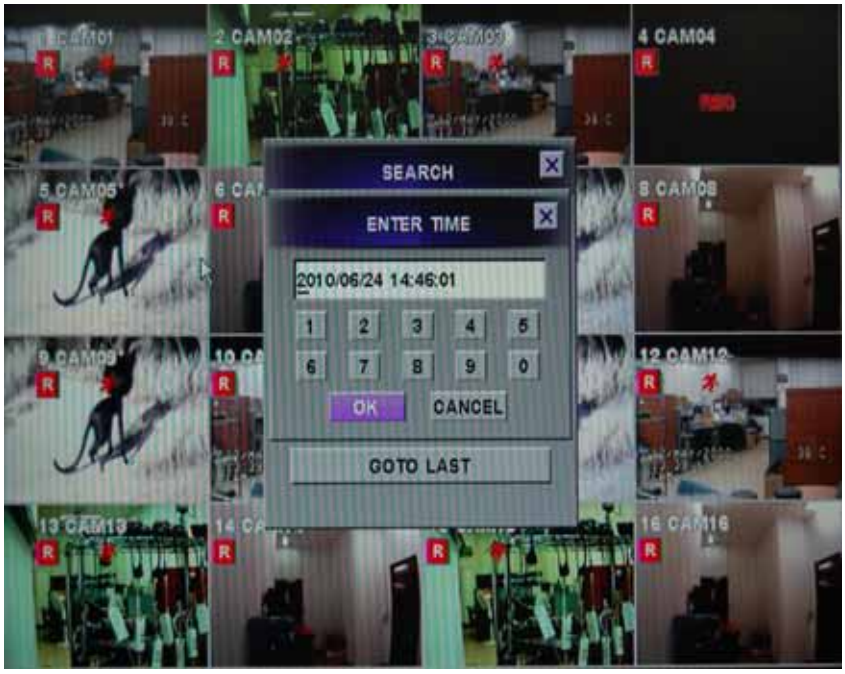


Figure 5-2

It is the menu to search the video data by Date & Time. If you select the icon of SEARCH BY TIME**,** You will see the Figure 5-2. Then you have to fill the date & time to find recording data.

5.2. SEARCH – SEARCH BY CALENDAR

It is the menu to search the image data by recording time. The screen (Figure 5-3) is shown up when the TIME SEARCH is selected. Place the cursor on the data that you want to search with the scroll keys and push “OK” button.

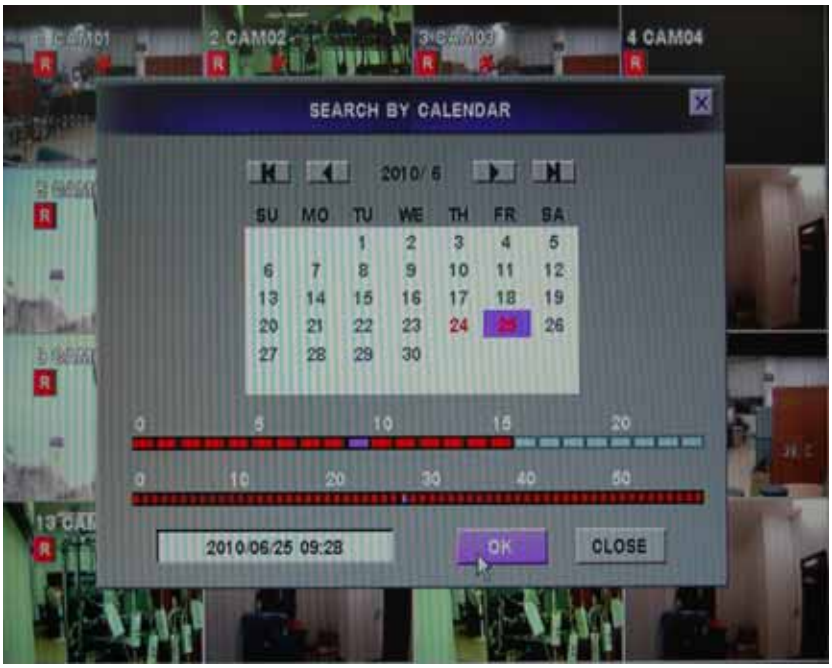


Figure 5-3

The existence of the image data is indicated and the image data is searched when the date to search is selected (Figure 5-3). The image data is indicated by colored section. Place the cursor on the colored section and push the OK button to play the saved image data. As the cursor moves, its location and time is indicated on the time bar at the bottom of the screen.

The saved image data can be searched with REW (◀◀) / PLAY (▶ II) / STOP (■) / FF (▶▶) (Figure 5-4). During the playing, pushing the play button pause the play of the image data.

Figure 5-4

The users can select the PLAY BUTTON (▶ II) on remote controller. To operate these features, select the PLAY BUTTON (▶ II) to start the search process and push REW (◀◀) or FF (▶▶) during the search. The play speed is doubled when the REW (◀◀) or FF (▶▶) is repeatedly pushed. The REW (◀◀) and FF (▶▶) BUTTONS increase the speed up to 128 times.

Button and icon instruction for searching the image data

REW (◀◀) x2◀ ◀II x3◀ ◀◀	-It rewinds the image data to replay the passed image during the search of the image data. -Its rewind speed goes up to 128 times faster by pushing this button repeatedly. -STEP REWIND feature is operated by pushing this button when the pause button is pushed during the search. x2◀:fast rewind(x2), x3◀: fast rewind (x3), ◀◀:fast rewind, ◀II : step rewind
PLAY (▶ II)	It replays the saved image in normal speed. It pause the play by pushing it once more.
STOP (■)	It stops the search of the image data.
FF (▶▶) ▶x2 II▶▶ ▶x3 ▶▶	-It is for the search of the image data with fast speed and replays up to 128 times faster. -STEP FORWARD feature is operated by pushing this button when the pause button is pushed during the search like REW (◀◀). ▶x2 :fast forward(x2), ▶x3 :fast forward(x3), ▶▶ :fast forward, II▶▶ : step forward

5.3. SEARCH – SEARCH BY EVENT

This feature separates the data that is recorded by EVENT from the image data to search the image.

The selectable event is the event of motion, sensor and video loss. If you select the event for motion, you can see the recording data for motion per Date/Time and video channel.

Figure 5-5

In Figure 5-5, select Start/End time for search. Move cursor to START TIME by front panel key or remote controller, then input number of date/time. If you choose ALL check box, all channels are saved. If not you can choose specific channel, you can search by each Event (motion, sensor, video loss) with video and audio.

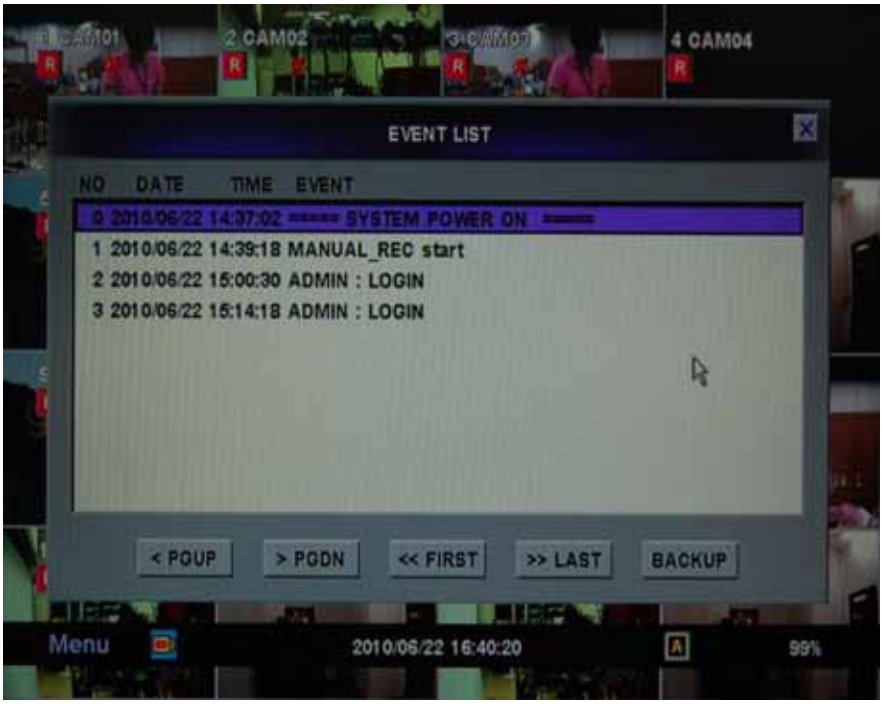


Figure 5-6

Figure 5-6 is the shown recording data by event search and are done with the file type. By moving recording file with the cursor and selecting OK button, recording data can be shown.

5.4. SEARCH – GO TO FIRST AND GO TO LAST

This function is the search for the start of recording date and last of recording data of recorded device. If you want to search start of recording data, click GOTO FIRST icon as Figure 5-1. Then recording data is play-back shortly. And if you want to search latest(previous) of recording data, click GOTO LAST icon. But you cannot see this data if you don't have any recorded data. Please take care. At First, check your recording status on your DVR system. Next, check your recording device. If there's any problem, we could recover your data.

Chapter 6. FUNCTION

It is the additional function to support Main Menu. There are the PTZ Function, SPOT, SEQUENCE, AUDIO, BACKUP and LOG VIEW for DVR system. If you need to go into the Function menu, please click the "Menu" button on status bar and then select FUNCTION menu.

Figure 6-1

6.1. PTZ

6.1.1 PTZ(Pan / Tilt / Zoom)

After you set PTZ preset and scan point as figure chapter 4.2.3. PTZ PRESET to 4.2.4 PTZ SCANPOINT, you can use these function on this menu and PTZ control bar as figure 6-1 and Figure 6-2.

Figure 6-2

You can use this menu after you set PTZ protocol as 4.2.2 PTZ protocol, and can have full screen video status. This control bar has UP/DOWN/LEFT/RIGHT and Zoom in/Zoom out control function.

6.1.2 PTZ(ADVENCE PTZ)

Figure 6-3

This PTZ control bar for PTZ preset and PTZ SCANPOINT as chapter 4.2.3 PTZ Preset to 4.2.4 PTZ scan point includes Focus control and Auto Focusing (If camera supports).

6.1.2.1 FOCUS

Click AUTO icon for auto focusing function. If you want to control by manual control, move the cursor to focus. And press the icon “+” and “–” .

6.1.2.2 IRIS

There are manual control and auto control (if camera supports). Click AUTO icon, if video is darker or brighter than normal. If you have the same problems, click “+”, “-” icon to set video status.

6.1.2.3 SPEED

It assigns speed value on the Control bar as Figure chapter 4.2.1 PTZ PROTOCOL setup. If PELCO-D PTZ Camera is ID 05, Baud 9600 and you need to choose speed, choose ID no. 05 by remote controller on the cursor as Chapter 4.2.1 and push ENTER key. Then choose PELCO-D on the PTZ protocol and Baud is 9600 after choosing speed by + or – as Figure 6-3 PTZ ADVANCE control bar.

6.1.2.4 SCAN

Figure 6-4

Click SCAN icon as Figure 6-3 PTZ ADVANCE on the Control bar and the display scrolls as assigned SCANPOINT number of chapter 4.2.4 PTZ SCANPOINT. If you choose a specific number of them, the camera moves to preset region automatically. For more detail, please see chapter 4.2.3 and 4.2.4.

6.1.2.5 GO

It operates the function of PRESET number as you set preset number on 4.2.3 PTZ PRESET. To operate it, click GO icon on the PTZ advance control bar. If you don't set this function on 4.2.3 PRESET, there is no preset number on GO control setup bar as figure 6-5.

Figure 6-5

6.1.2.6 OSD MENU

When you click “OSD Menu” button, will go into PTZ own OSD Menu.

Then you can set-up PTZ OSD Menu from DVR remotely.

6.2. SPOT – Standard model only

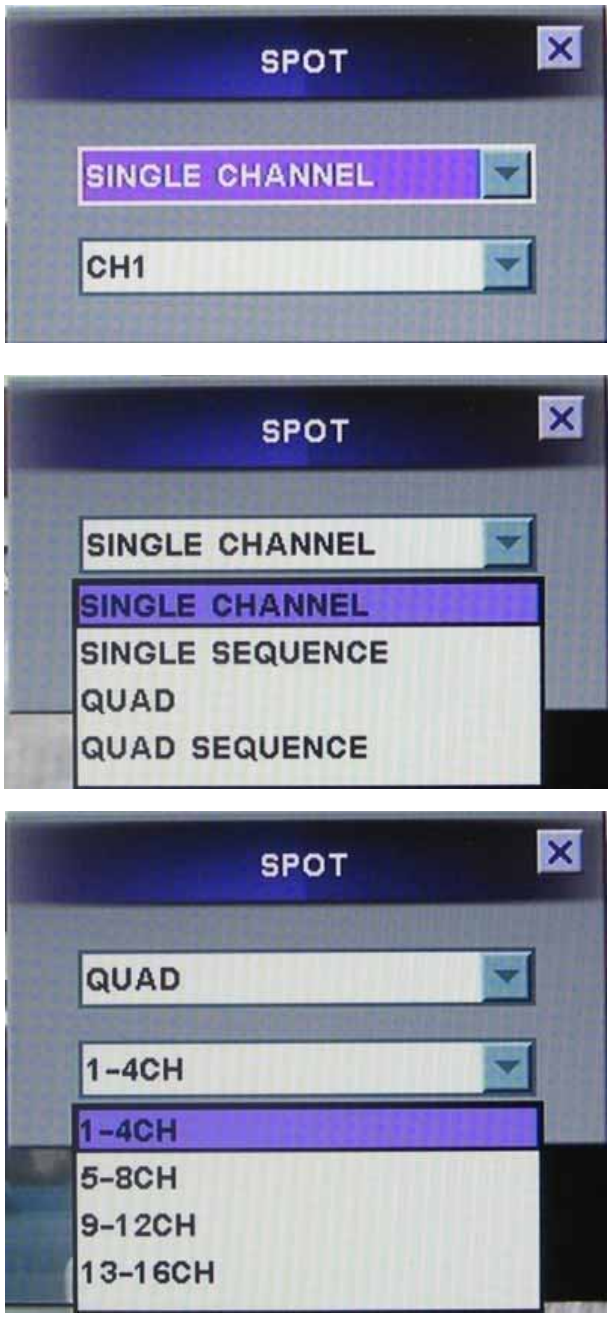


Figure 6-6

It supports single Spot and quad Spot through SPOT output connector.

Please refer to the content of [[Chapter 4.1.5 / 4.1.6]] Page 25.

6.3. SEQUENCE

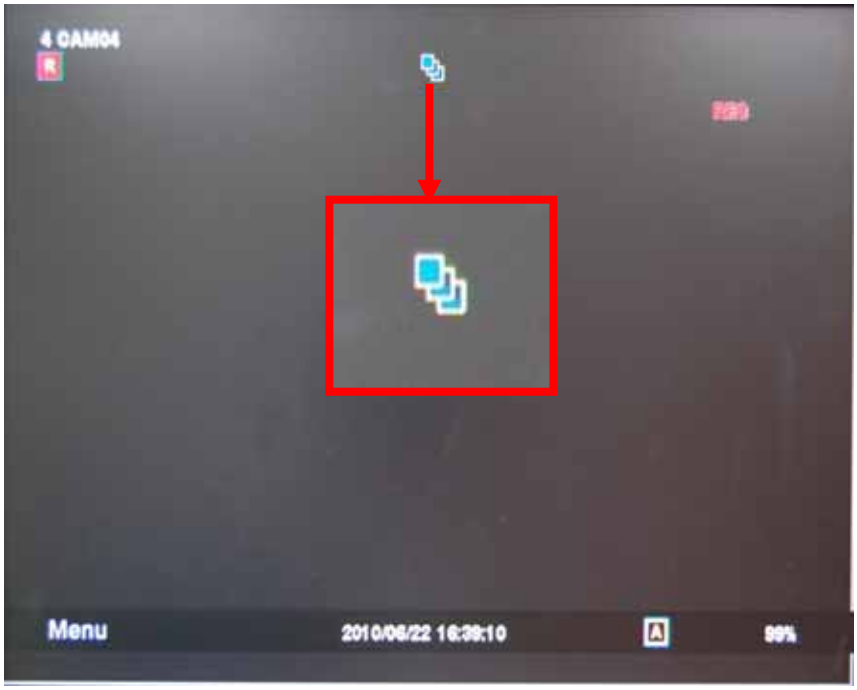


Figure 6-7

Click “sequence” button in Function menu after selecting 1 or 4 division screen from DVR.

Then you can use Sequence function.

Please refer to the content of [[Chapter 4 – Live – Sequence]] Page 20.

.

6.4. AUDIO

It controls the audio output on each channel. The users can select the audio output to turn on of off by choosing AUDIO ON or OFF (Figure 6-8) and the audio output can be stopped by MUTE.

Figure 6-8

6.5. BACKUP

It stores the saved image and sound data in backup device.

Figure 6-9

It is the explanation of the BACKUP set-up.

DEVICE	This section display specification and information of USB device or DVD-RW for backup.
CHANNEL	It assigns the BACKUP type and target channel. All channels are assigned when ALL is selected, if you want choose specific channel, click ALL button for disable all channels. After that click specific channel which you want to backup. If you want to choose all channels, click the check box ALL. If you select "**To AVI**" menu, you can save the data by **AVI** format. However, it supports to Back-up for a channel data only.
TIME	It assigned start to end time of backup data, click the specific table of time "FROM" and click OK button as Figure 5-2, then you can see time selection box. Push numeric button on the front panel or remote controller to input specific time.

After that process, click OK button then backup process is start.

You have to wait for image processing on system before save on media in case of backup to USB memory device.

6.6. LOG VIEW

This function confirms the overall operation LOG in the DVR system. Push the FUNCTION KEY and select the LOG VIEW at the screen of Figure 6-1.

You can choose LOG type. If you want to see all, try to click “ALL”. Also if you want the specific type, you can check what you want to see. Then check FROM and TO for specific time for log search. Finally, click SEARCH button.

Figure 6-10

Chapter 7. OTHER FUNCTION

7.1. DIGITAL ZOOM

It's digital zoom, not optical zoom. Digital zoom has 2x and 4x, If you press Z/F button on remote controller in full screen mode, you can see Zoom screen as figure 7.1.

Also If you press direction buttons (Up/ Down/ Left/ Right), Zoom-Area window will move.

If you press Select key, Selected Zoom-Area will be displayed as full screen as figure 7.2.

Figure 7-1

Figure 7-2

7.2. PIP

PIP (Picture in Picture) displays another image in a small pop-up screen over the previous image in the FULL SCREEN. With the PIP BUTTON, the previous image is shown as CH No.1 in the FULL SCREEN and the another image is played as CH No.2 in the small pop-up screen. The sizes of the two screens are interchanged, when the PIP BUTTON is selected again.

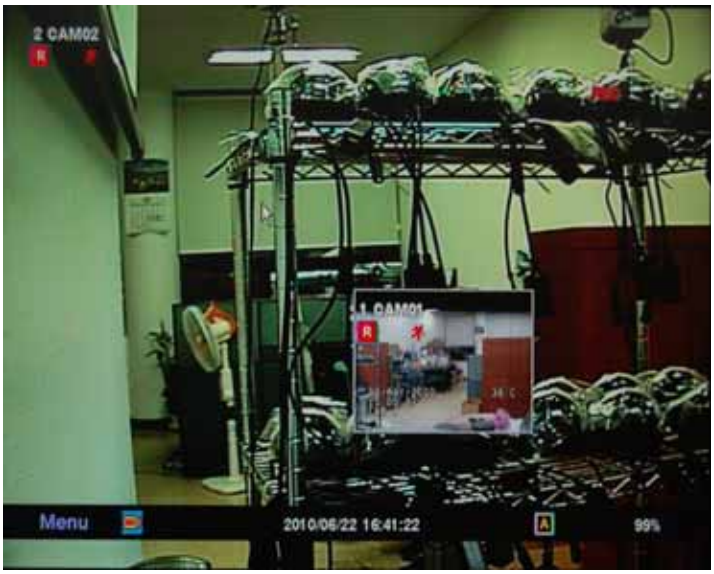


Figure 7-3

With the scroll button (◀▶▼▲) on remote controller, the small pop-up screen could be moved.

7.3. POP

POP focuses on the screen that is wanted to watch from the equal-size screens. On the POP (screen), the screen of the desired channel is displayed in the FULL screen, when the channel number is selected.

Figure 7-4

7.4. THE SETUP FOR IP ROUTER

If your network uses Dynamic IP and also uses one more network IP based on WAN IP by IP router, you have to configure IP router to use Network client program.

STEP 1] Please check your WAN IP and DNS on IP router

STEP 2] If you have many private IP on network, you have to set private IP on DVR system.

STEP 3] Normally, IP router uses 192.168.0.1 or 192.168.1.1 on the network, so we recommend 192.168.0.5 later or 192.168.1.5 later.

Example] WAN IP : 61.123.071.49 DNS : 168.136.0.1 on IP router, you need 4 IP and 1 DVR,

1. Set 192.168.0.6, 192.168.0.7, 192.168.0.8, 192.168.0.9
2. If you want to use 192.168.0.9 for DVR, set port forward that IP on your IP router. Port forward value is 7620 to 7624.

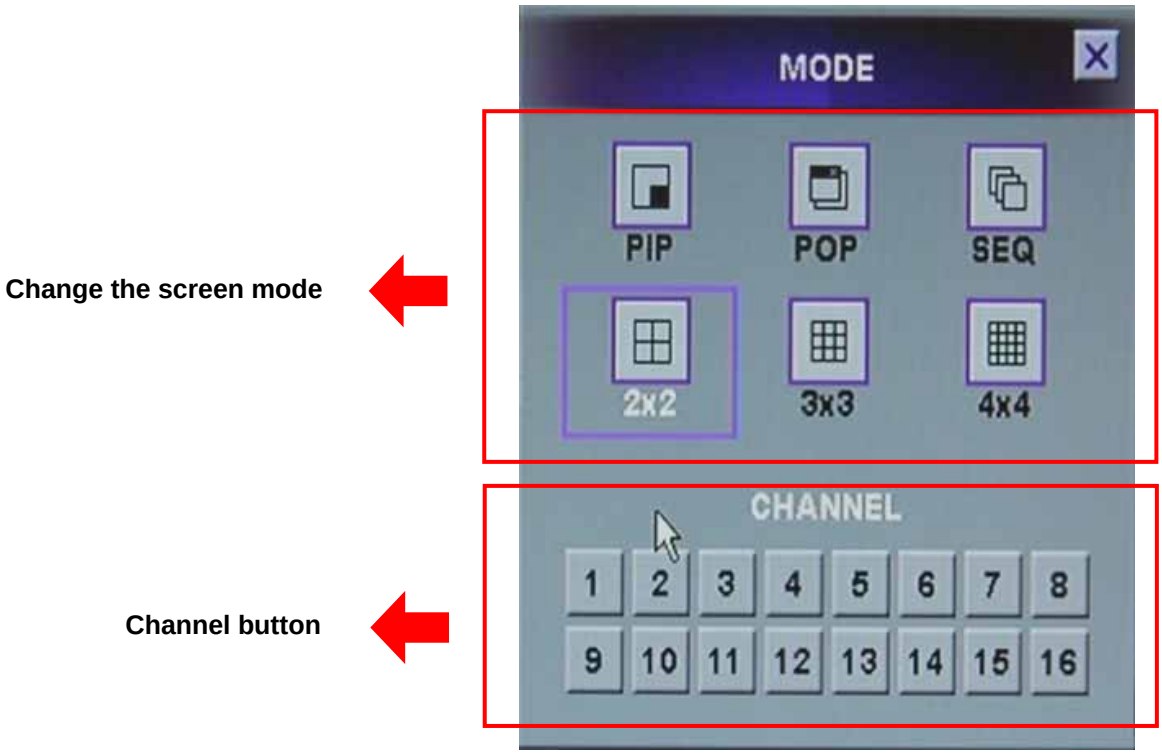
There are many IP router brands, so you have to read IP router manuals and try to sets up as reference.

7.5. MOUSE CONTROL

- System support connection with USB mouse and can be operated by USB mouse.
- For using mouse operation, Connect USB mouse to USB port of product.
- Some USB mouse cannot be compatible with product.

7.6. CHANGE SCREEN MODE

If you press right button of mouse on screen, following window will appear.



- If you double-click specific channel, screen changes full screen mode. If you want to go back to previous mode, double-click again.
- At PIP mode, if you want change channel of small window, press right button of mouse. Then, screen mode menu will appear. Click desire channel button

EnNet Client Software

Release Version : 2.5

EnNET2.5 client software is the software for controlling the system through the network. Any copy or change would be prohibited by law.

1. INSTRUCTION

1.1 Network Client Program

Client program which allows Client PC to live monitoring, search, save, and restrict PTZ camera and backup the images retrieved from DVR connected of EnNet2.5(Network Client Program).

1.2 Program Installation

1. Insert packaged Client Program CD in the CD-ROM.
2. Client Program will automatically start; if not manually double-click the icon to install.
3. Client Program install icon will appear, install the file or name the folder differently and install.
4. Once Installation is complete, Network Client Program (EnNet2.5) Icon will appear on the desktop, and in the Start Program List of OS.
5. Double click the icon to start the program.

1.3 Client System Requirements

	Least	Recommended
CPU	Intel Pentium III	Intel Pentium IV or higher
Main Memory	256 MB	512 MB
VGA Memory	64 MB	128 MB
Screen Resolution	1024x768	1024x768
Free Disk Space	10 GB or higher	20 GB or higher
OS	Windows XP, 2000 Pro	Windows XP, 2000 Pro, Vista
Network	10/100 Base T	10/100 Base T
DirectX	Direct 9.0 or higher	Direct 9.0 or higher

2. MONITORING FEATURE

2.1 Starting Program

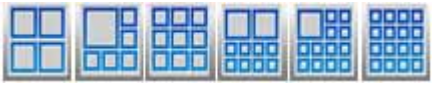
Double click Client Program icon on the window desktop to start the program.

Below image will appear for few second before Client Program appear on the main screen.

[Figure 1. Initial Starting Screen]

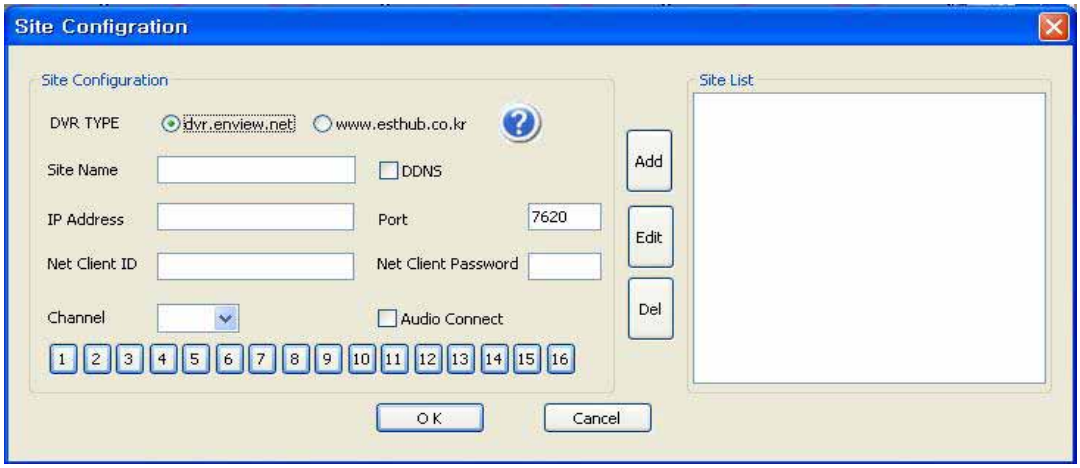
[Figure 2. Monitoring Main Screen]

2.2 Monitoring control button feature

FUNCTION	DESCRIPTION
	Indicates name and current time on Client PC(Local)
	4,6,9,13,16 Screen Divisions mode
	Transfer to Next Channel, Full, Auto-rotation mode
 SEARCH	Use the button to search data
 SETUP	Use the button to go to setup mode
 E-MAP	Indicate where camera is installed
 LOCK	Locking the screen of running function
 LOCAL MANUAL RECORD	Save DVR's data in Client PC
 PTZ CONTROL	Control PTZ camera's Pan/Tilt/Zoom/Focus functions
 SNAP SHOT	A still image can be captured and saved in the desired folder
 CONNECT	Connecting to Remote DVR
 SOFTWARE TURN OFF	Finish Client Program
	Indicates log information : All, System, Status, Event
 OSD(DISPLAY ON/OFF)	Indicates Client information
 SOUND	Controls audio volume
 EVENT LIST SCROLL LOCK	Event List scroll

2.3 Connecting to Remote DVR

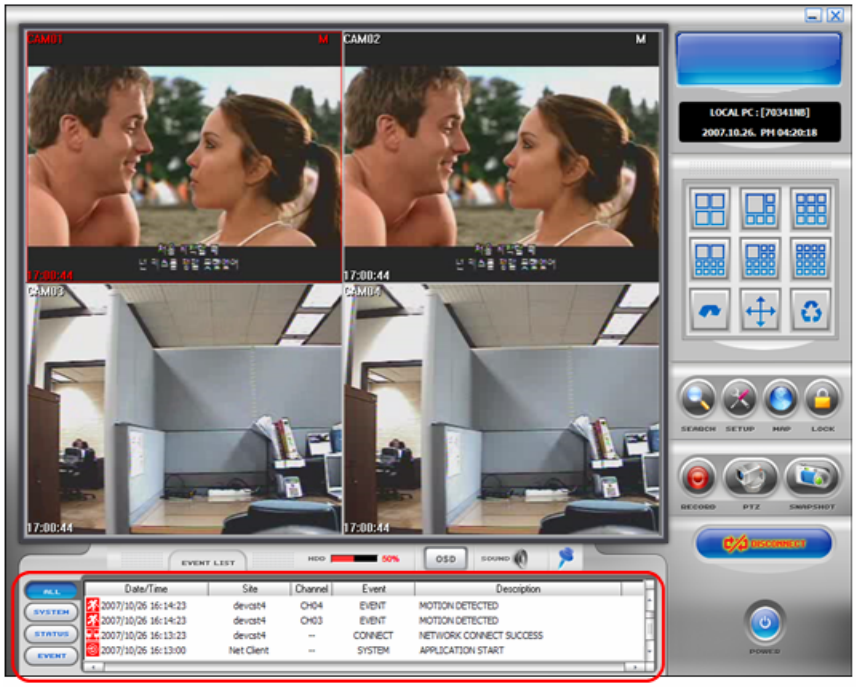
Click the connection button then below Connection. Screen will be displayed.



Site Configuration	The network-connect Information of Remote DVR
DVR TYPE	Select either **dvr.enview.net** or **www.esthub.co.kr** (Please refer to DDNS Part of the provided Manual)
Site Name	Type in site name of DVR
IP Address	Type IP address of Remote DVR. If using DDNS, Type DDNS ID in this field.
DDNS ID	If you use DDNS, Type your DDNS ID. (If you select Content of DDNS, “IP Address” change “DDNS ID”)
PORT(Network Port)	Type the same port as DVR.
Password	Type the same password as DVR
Channel	Select the number of DVR channel
Audio Connect	Check to use or not to use an audio connection. (If this want to use, It has to set Audio connection from DVR)
Add	Add new DVR
Edit	Edit Site information in Site list
Del	Delete DVR from the Site list
Site List	It display the entire site information of Remote DVR.
O K	It connect the selected DVR
Cancel	Exit

2.4 Monitoring

Live screen will appear once the connection is made between Client Program and Remote DVR, Client Program screen divides according to the number of Remote connected DVR's channel.



[Figure 3. Monitoring Screen]

Once Client Program is connected to Remote DVR, event information will display on the list and you can search information at your request.

ALL	Displays all event information
SYSTEM	Displays system related information
STATUS	Displays system status
EVENT	Displays event log

	Client Program Started		Recording
	DVR connected		Sensor detected
	Motion detected		Configuration Changed
	Alarm alerted		DVR shutdown
	Camera disconnected		

click disconnection button to close live screen then appears the main screen.

2.5 Storing in PC(Local Manual Record)

1.  [RECORD] Click Record button, then chosen live feed screen will store in chosen folder of Client Program menu
2. To stop storing, click Record button. You can click Search button and local search to play stored file.

2.6 PAN/TILT/ZOOM/FOCUS CONTROL

Select channel with PTZ Camera in monitoring screen and click PTZ button  then PTZ control screen will appear.

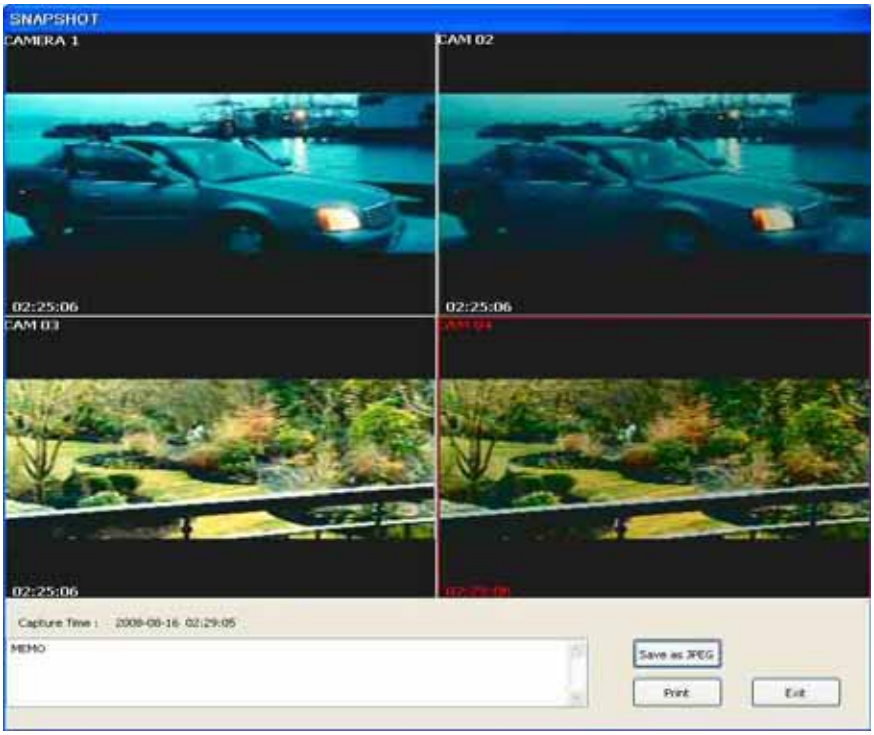
	Camera Panning
	Camera Tilting
	Zoom in , zoom out control
	Focus in , Focus out control
	Select PRESET number
	Run PRESET
	Stop PTZ Camera control function

2.7 LOCK SCREEN

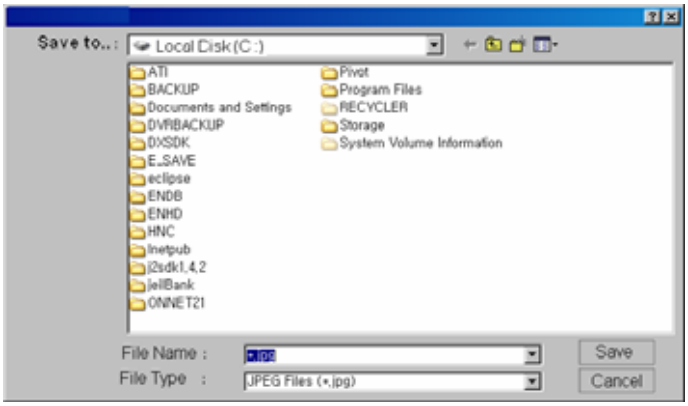
1.  Click lock button then chosen lock screen from the Client Program menu function will run.
2. Type saved password

2.8 SNAP SHOT

1.  Click SNAPSHOT button then live feed screen will be captured in still image.



2. Click JPEG save button then it would be saved under desired place and name.



3. Click Print button to print from connected Printer
4. Click Exit button then you can capture stored image or can go to Search Screen without Printing.

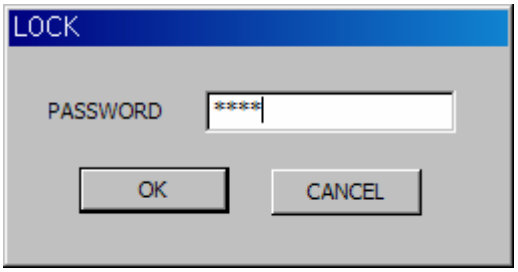
3. SEARCH FEATURE

3.1 Main Search Screen

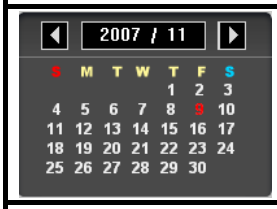
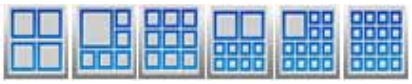
Click Search icon  in the main screen of client program then, main Search screen will appear

[Figure 4. Main Search Screen]

If the screen lock is set in the client program configuration menu, you need to enter the password.



3.2 Search Button Feature

FUNCTION	DESCRIPTION
	Data stored date will be displayed in dark shades. Use arrow to choose wanted date
	4,6,9,13,16 Screen Divisions mode
	Next Screen, Full Screen, and Panorama Search
 BACKUP	Backup button
 LOCK	Lock the screen
 SNAP SHOT	SNAPSHOT button
 EVENT	Event button
 LOCAL SEARCH	Local Search button
 REMOTE SEARCH	Remote Search button
	Go to the first data search
	Move backward by 1 frame
	Fast Backward Playback
	Reverse play
	Stop playing data
	Play the stored data
	Fast forward Playback

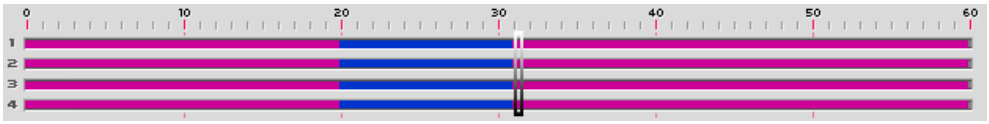
	Move forward by 1 frame
	Go to the last data search
	Search and display by 4 channels
	Indicate recorded Hour
	Indicate recorded Minute
	Scroll 4 channels from recorded data
	Play audio
	Mute audio
	Exit

3.3 Remote Search – Selecting the recorded date and time

1) Select the date from the right calendar. Saved data of the date will show in yellow, Date selected will change to red.

2) Select search date saved data will show in 24 Hour matrix. Blue is the data saved time, Red is the time you want to search.

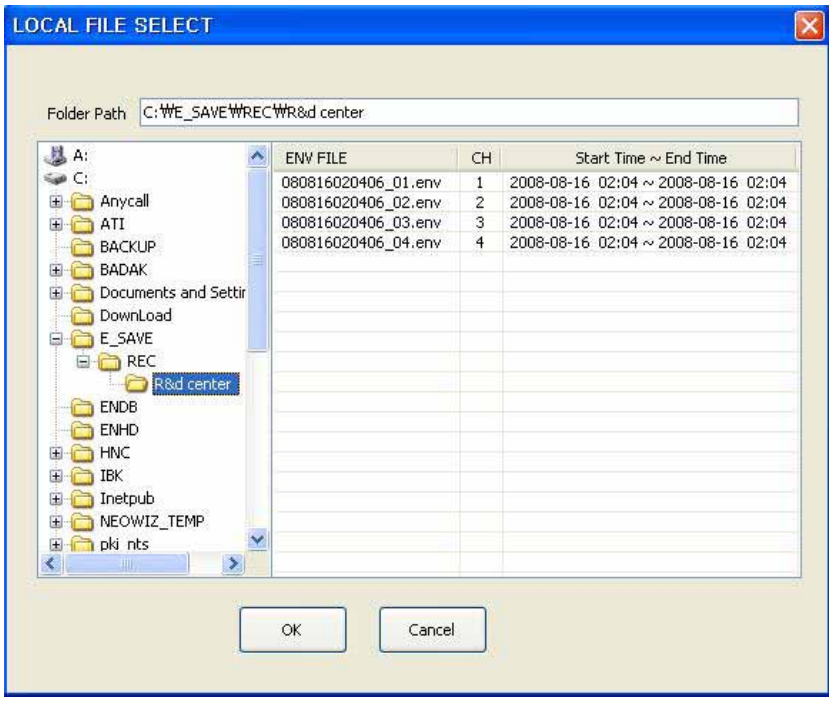
3) Select search time then saved data will appear in red. Click play button to play from the first of data. Move the mouse to play the exact time of data.



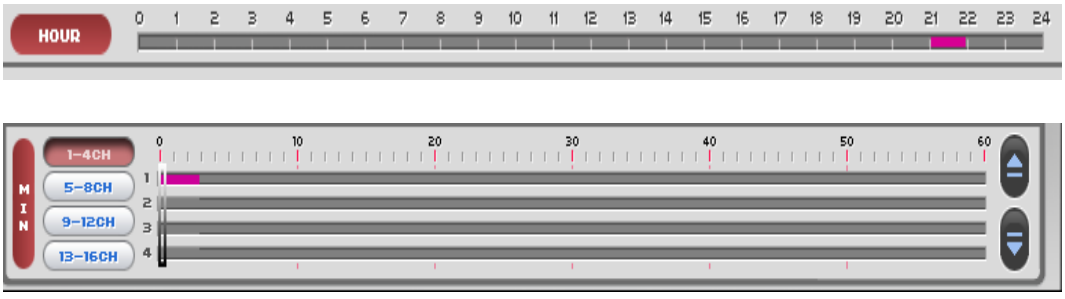
4) Selected screen division mode will be applied when searching..

3.4 Local Search

1) Search and play recorded Date.  Click local search button then display saved data files and under right list. Select the saving folder from client program setup menu.



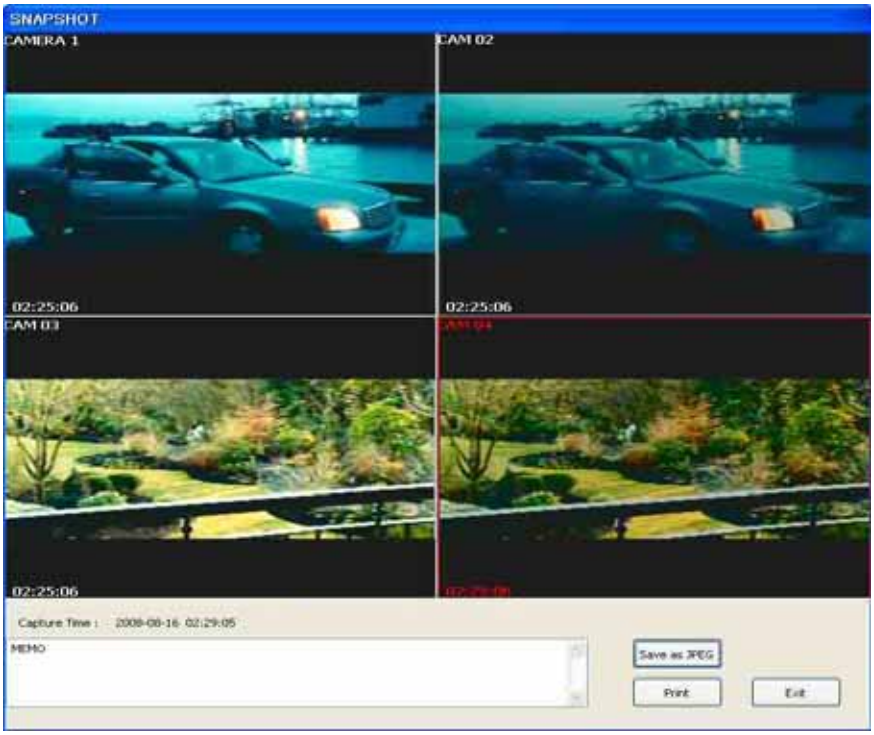
2) Select a file which located in the right box and displays ENV file's channel then Start time/ Exit time of data information recorded.



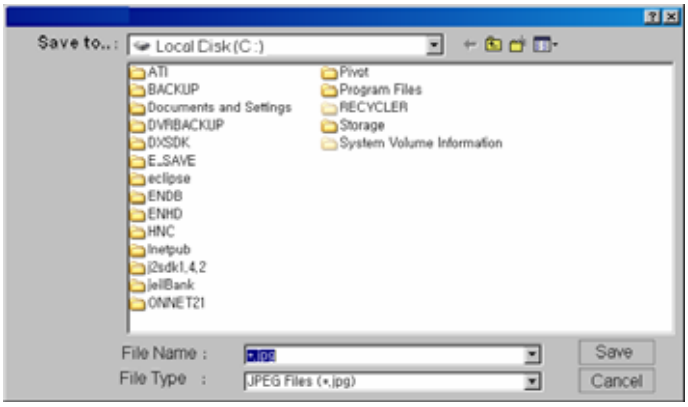
3) Click play button to play the recorded data.
4) Click cancel button, then exit to main screen.

3.5 SNAPSHOT

1) Click SNAPSHOT button then live feed screen will be captured in still image.



2) Click JPEG button then select save folder and type file name.

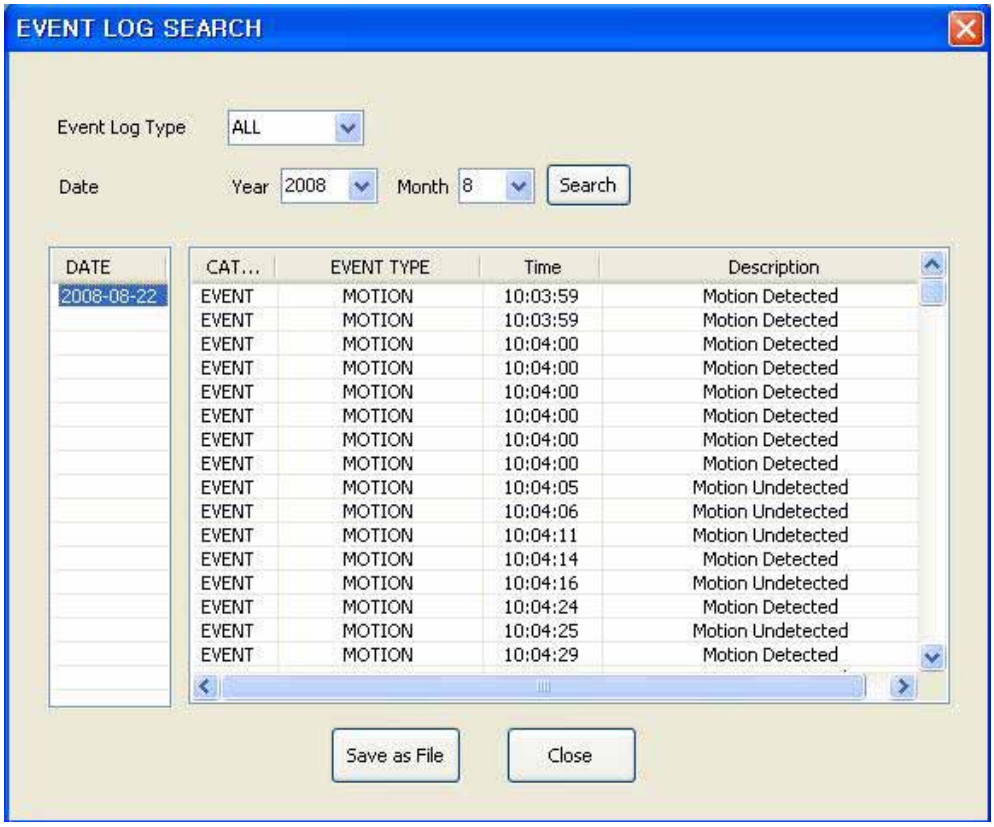


3) Click print button to print

4) Click Exit button to save captured still image or Exit without printing.

3.6 Search Log Information

1) Client program and Remote DVR information – Search and Save Motion detection, Alarm, Sensor detection data file



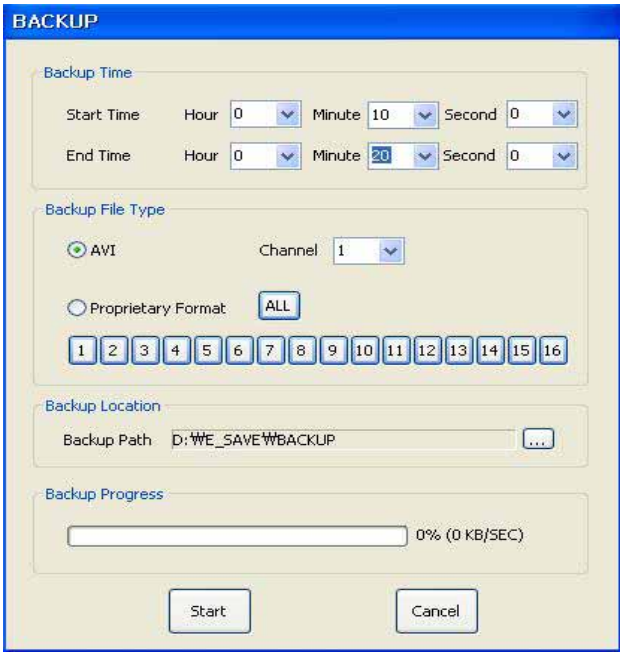
Event Log Type	Kinds of log information : All, System, Status, Event
Search	Search log information by Year and Month
Date	Select saved date
Save as file	Save to CSV file from selected log information(Type folder and file name)
Close	Exit search log information screen

4. BACKUP FEATURE

4.1 Select Backup time period

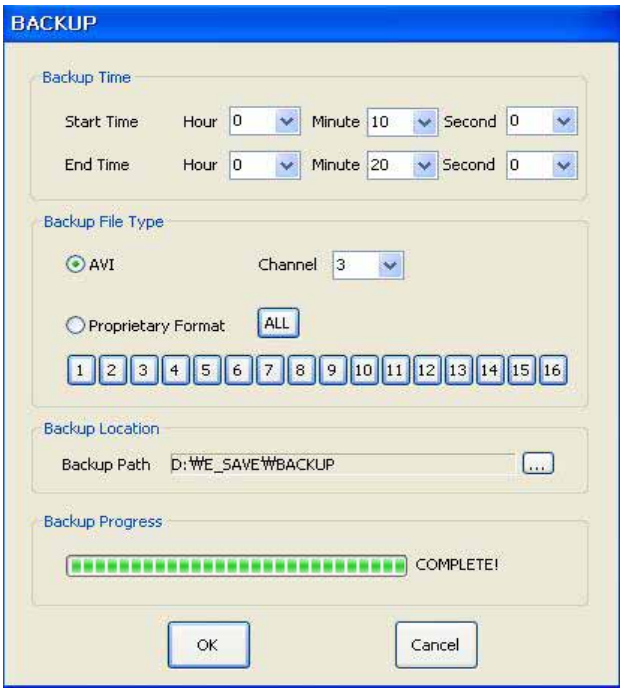
1) From the saved data, select time period you want to backup and click [BACKUP] button

2) Click backup button then displays backup screen.



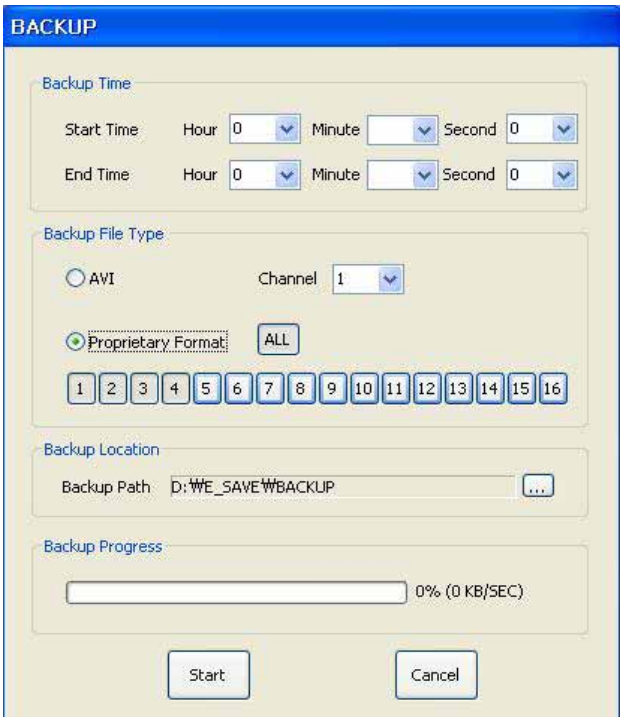
4.2 AVI Backup time period

1) Select the type of BACKUP file in AVI then backup channel by channel.



4.3 ENDB Backup time period

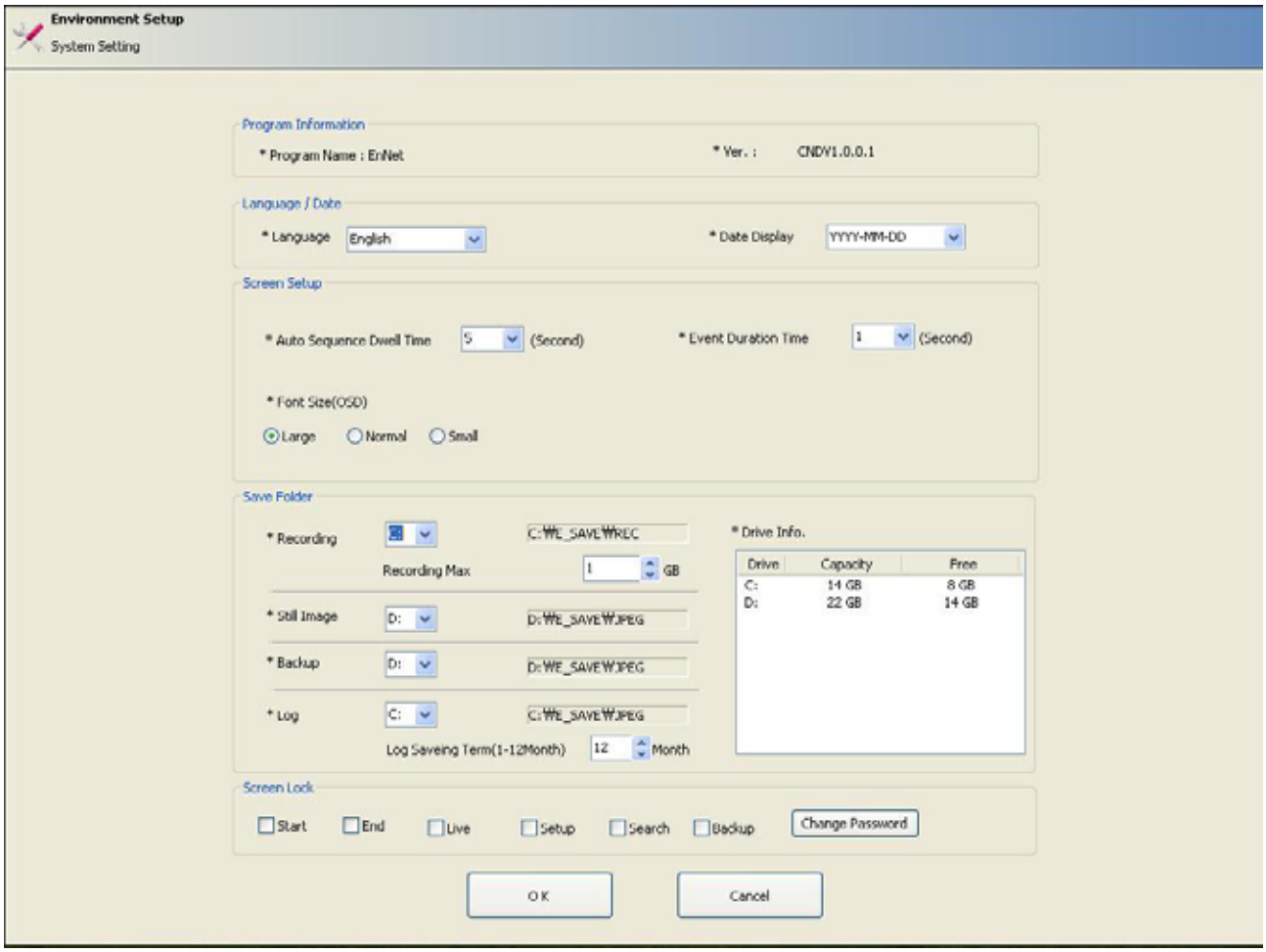
1) Select the type of BACKUP file in default format then select channel and backup.



5. SETUP PROPERTY

5.1 Setup System

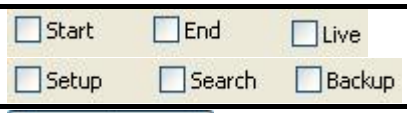
Click [SETUP] button  in monitoring screen then display setup menu to configure client program property



5.2 Setup System control button

OK	Save modified configuration property and Exit to Main Screen
Cancel	Exit to Main Screen

5.3 Setup Property description

FUNCTION		DESCRIPTION
Program information		Indicate program name and current version
	Program Name	Client Program name
	Program version	Client Program Version information
Language and Date		Indicate and Select client language /data type
	Language	It is the language of setup menu on client program
	Date display	It displays the type for date on client program
Screen Setup		It is control of the setup for Font size on client.
	Font Size(OSD)	Control the font size of OSD on client screen
	Auto Sequence Dwell Time	Control the interval time of sequence on client screen.
	Event Duration Time	Display the event list by assigned time
Save Folder		Indicate the information for each saved folder.
	Recording	Indicate the saved folder information for manual record.
	Still Image	Indicate the saved folder information for still image.
	Backup	Indicate the saved folder information for backup.
	Log	Indicate the saved folder information for log.
	Recording Max	Control the capacity of recording
	Log Saving Term	Control the period to use log data space
Screen Lock		Control the authority for each module menu
		If check the each check box. When using the checked menu, You have to fill the password.
		It is the password for authority.